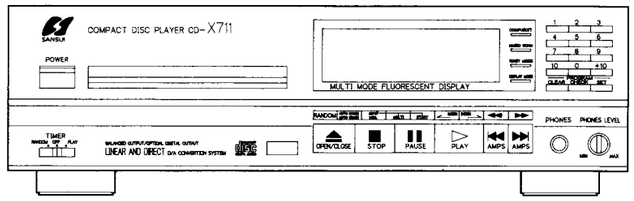
SANSUI

SERVICE MANUAL

CD-X711

COMPACT DISC PLAYER



CAUTION

1. Parts identified by the ⚠ symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

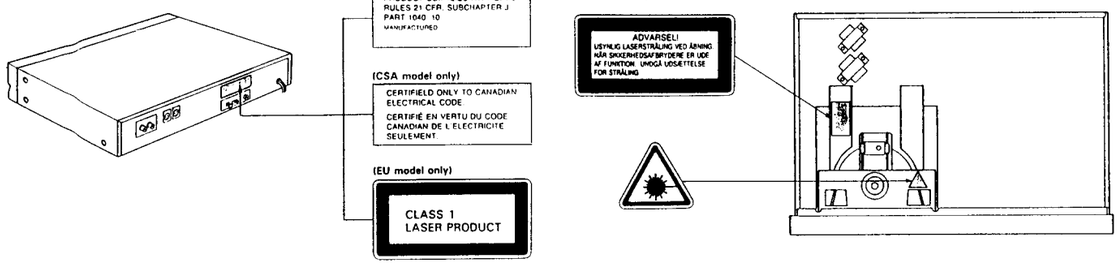
NOTICE

The symbols, EU, SS, and XX <EXPORT> on the parts list and the schematic diagram mean followings respectively.

EU.....Manufactured for European market.
SS.....Manufactured for Saudi Arabia market.
XX.....Standard Version.
<EXPORT>
NON MARK.....Common Parts.

Cautions Concerning Handling of The Laser

The following label has been affixed to the unit, listing the proper procedure for working with the laser beam.


(UL,SS and XX model only)
PRODUCT COMPLIES WITH DHHS RULES 21 CFR SUBCHAPTER J PART 1040 10
(CSA model only)
CERTIFIED ONLY TO CANADIAN ELECTRICAL CODE
CERTIFIÉ EN VERTU DU CODE CANADIAN DE L'ELECTRICITE SEULEMENT
(EU model only)
CLASS 1 LASER PRODUCT
(EU model only)
ADVARSEL!
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING

● Specifications

Format.....Compact disc, digital audio
Pickup.....3-Beam, semiconductor laser
Number of channels.....2 channels (stereo)
Decoding (D/A).....16-bit linear
Frequency response.....DC to 20 kHz, ±0.3 dB
Total harmonic distortion.....Less than 0.003% (1 kHz)
Signal-to-Noise ratio.....Better than 103 dB
Dynamic range.....Better than 98 dB
Wow & flutter.....Below measurable limit

Output voltages/load impedances
Normal output (OUTPUT-1).....2 V/ 5 kohms or more
Balanced output (OUTPUT-2).....2 V/ 600 ohms or more
Digital output (COAXIAL).....0.5 Vp-p ± 0.1V/ 75 ohms
Digital output (OPTICAL).....660 nm (emitted light wavelength)
Headphone output.....45 mW (variable maximum)/with 32-ohm load
Power consumption.....AC 120,220~240 V , 50/60 Hz
For U.S.A & Canada.....AC 120 V , 60 Hz
Rated power consumption.....35 W
Dimensions.....430 mm (16-15/16") W
127.5 mm (5-1/16") H
397.5 mm (15-11/16") D
Weight.....10.0 kg (22.0 lbs) net

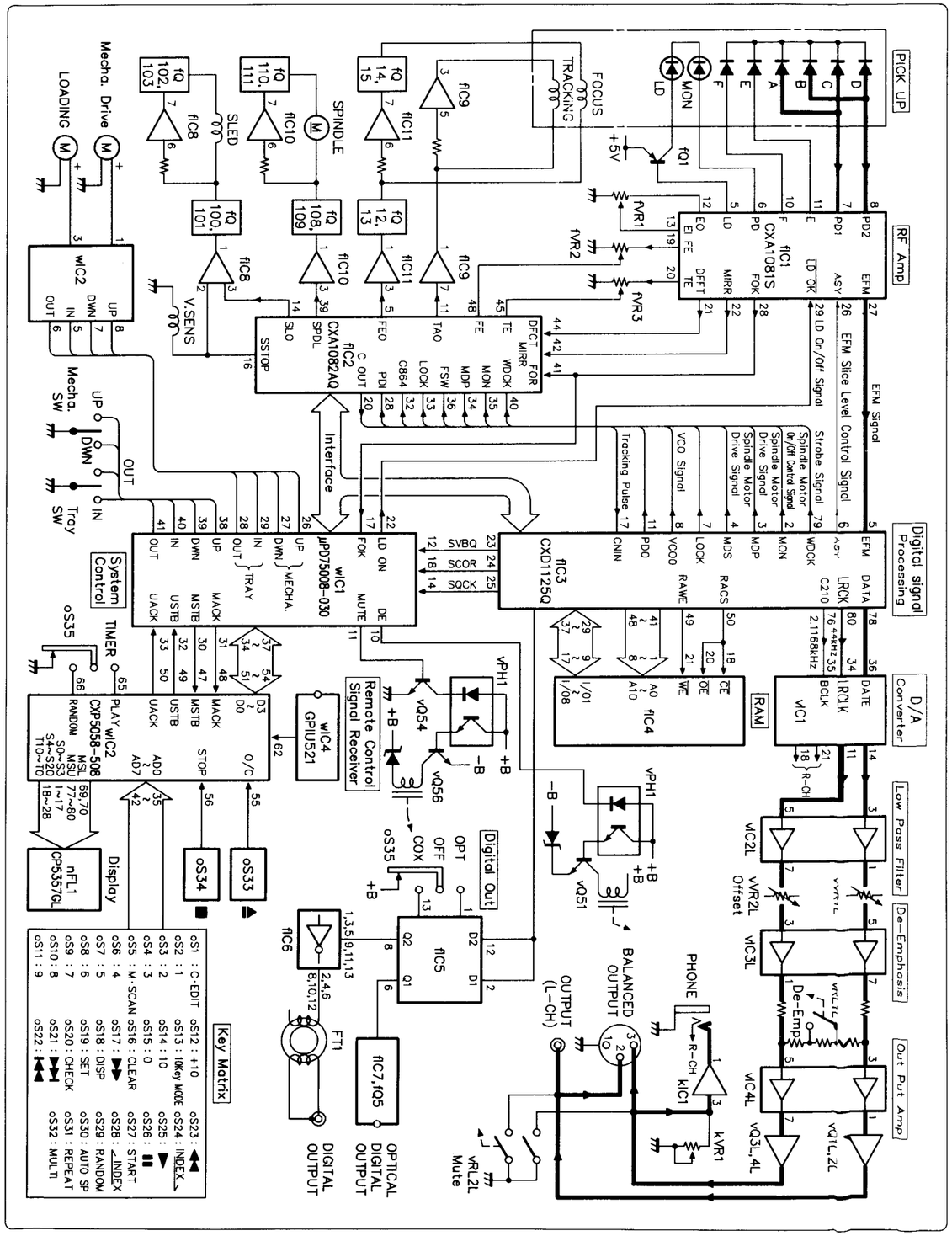
Remote Controller: RS-1110

Control system.....Infra-red ray pulse system
Power requirements.....DC 3 V
Dimensions.....64 mm (2-9/16") W
18 mm (3/4") H
176 mm (6-15/16") D
Weight.....140 g (0.3 lbs) including batteries

Accessories
Remote controller.....1
Dry batteries (SUM-3K).....2
RCA-type pin-plug cord.....1

- **Design and specifications are subject to changes without notice for improvements.**
- **Due to local laws and regulations, this unit sold in some areas are not equipped with variable voltage selectors.**

1. BLOCK DIAGRAM

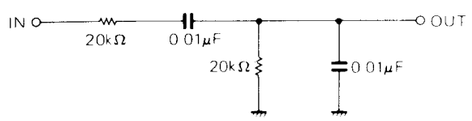


2. ADJUSTMENT METHOD

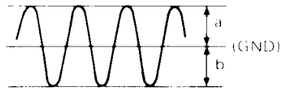
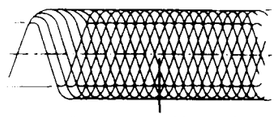
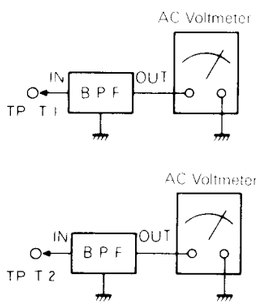
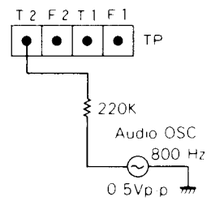
• Cautions

1. Turn the power OFF before removing the bonnet.
2. See Figure 2-1 for the locations where adjustments are to be carried out.
3. Use the EIAJ test disc CD-1.
4. The following band pass filter (BPF) is used for adjustments.

Band Pass Filter (BPF)



5. If the adjustment is unsatisfactory and playback is not possible, adjust as follows:
   1) Set fVR1, fVR2, fVR3 and fVR4 to their mid points.
   2) Adjust the VCO (fVR5) and select playback.
   3) Carry out adjustment steps 2 to 5.
6. In executing steps 2 to 5, connect the probe after playing the disc.

Step	Item	Measuring Location	Adjustment Location	Adjustment	Conditions and Notes
1	VCO adjustment (carry out in STOP state)	Connect a frequency counter to TP (VCO).	fVR5(VCO)	4.32MHz±30Hz	• Ground EFM of TP. • Turn ON the power then wait at least 10 seconds before adjusting.
2	Tracking offset adjustment	Connect an oscilloscope to T1 of TP.	fVR1	 Set the oscilloscope to the DC range. Adjust so that a and b have the same level.	• Ground T2 of TP. • Playback the 8th track of CD-1.
3	Focus offset	Connect an oscilloscope to the RF of TP.	fVR2	Set to maximum.  Carry out adjustments to achieve a clean overall pattern and so that the indicated portion is wide and symmetrical.	• Playback the 8th track of CD-1.
4	Output Offset	Connect DC voltmeter to output terminal of F-6250 (H-G,C-G,H-C).	vVR1...H-G vVR2...C-G	0V±1mV	• Playback the 4th track (no signal) of CD-1.
5	Tracking gain adjustment	Connect AC voltmeter to T1 of TP via the BPF. Connect AC voltmeter to T2 of TP via the BPF.	fVR3	 Using the indicated voltage at T1 of TP as a reference, adjust the voltage at T2 to -3.5dB.	 • Playback the 4th track (no signal) of CD-1. • Apply an 800Hz signal of 0.5Vp-p from SG to T2 of TP via a resistance of 220kΩ. Adjust fVR3 to the position shown in the diagram if you do not have a BPF or if -3.5dB cannot be achieved.
6	Output Level	Connect AC voltmeter to OUTPUT-1.	mVR1	$2V^{+0.05V}_{-0}$	• Loading Impedance...10kΩ. • Playback the 1th track of CD-1.

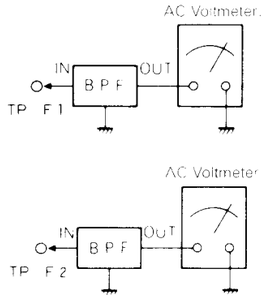
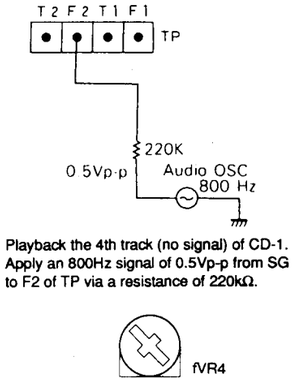
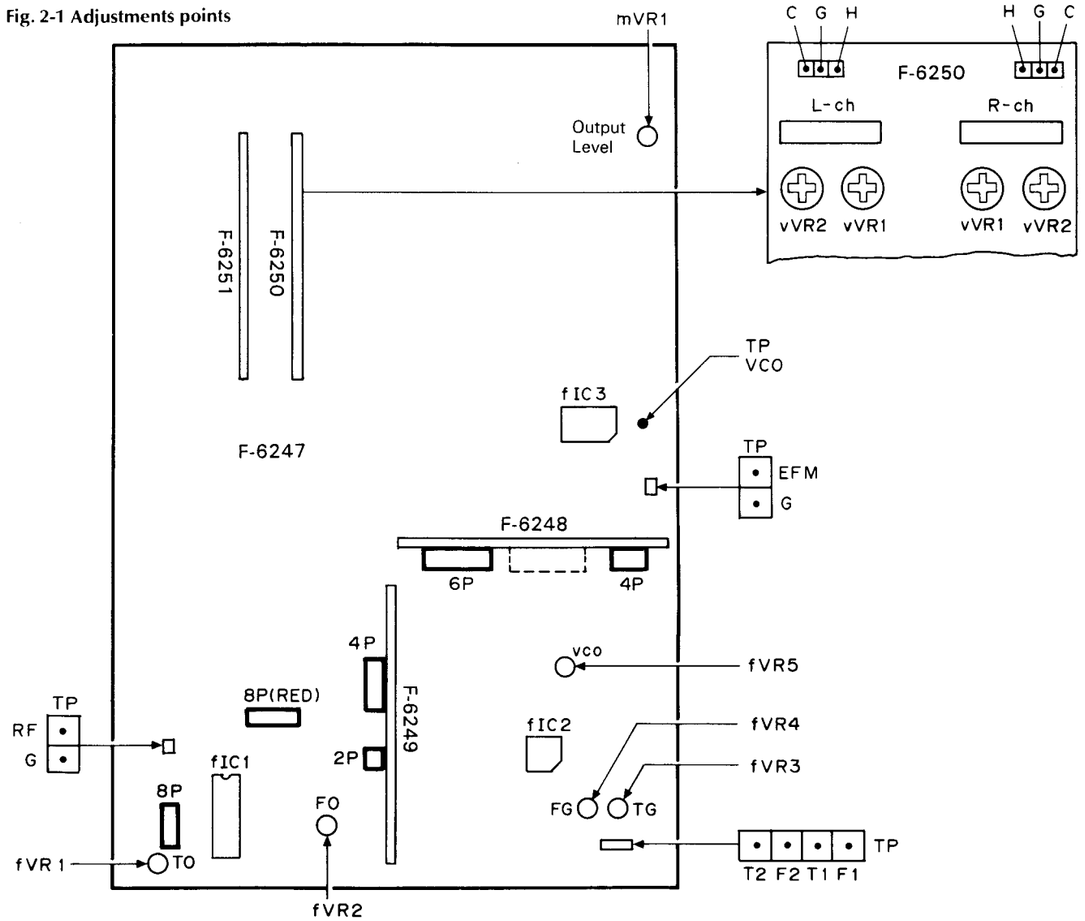
Step	Item	Measuring Location	Adjustment Location	Adjustment	Conditions and Notes
7	Focus gain adjustment	Connect AC voltmeter to F1 of TP via the BPF. Connect AC voltmeter to F2 of TP via the BPF.	fVR4	 Using the indicated voltage at F1 of TP as a reference, adjust the voltage at F2 to -2.5dB.	 • Playback the 4th track (no signal) of CD-1. • Apply an 800Hz signal of 0.5Vp-p from SG to F2 of TP via a resistance of 220kΩ. Adjust fVR4 to position shown in the Figure if you do not have a BPF or if -2.5dB cannot be achieved.

Fig. 2-1 Adjustments points



※When removing a mechanism assembly, disconnect that six connectors are shown with thick line.

3. MAIN PARTS REPLACEMENT

A. Tray Panel, Tray (3) & Loading Belt (8)

1) Remove the bonnet.
2) Check the stopper position that it is to 'FREE' from bottom side.
3) Loosen two screws (1) to remove the clamp ass'y (2).
4) Pull the tray (3) toward you until it is brought into contact with the stopper.
5) In case of the tray panel, loosen two screws at bottom side of it.
6) Push the tray toward you while sprending the tray stopper.
   Note : Do not broken the stopper.

B. Mechanism Assembly

1) Remove the tray.
2) Disconnect six them.
   (See Fig. 2-1 on page 2)
3) Loosen six screws (45) to remove the mechanism assembly.

C. Drive (Loading) Pulley (10)

1) Remove the mechanism assembly.
2) Pull the lock pin (9) to remove the drive (loading) pulley (10).

D. Loading Motor (6)

1) Remove the mechanism assembly.
2) Remove the loading belt (8).
3) The mechanism assembly can be turned upside down and desolder the motor terminals to remove the lead wires and capasitor.
4) Loosen two screws (4) to remove the motor (6).
5) Pull out the pulley (5) from the motor shaft.

* When inserting the pulley, the tip of loading motor shaft should be aligned with the top of face of the pulley.

E. Drive Motor (6) and Drive Pulley (10)

1) Remove the mechanism assembly.
2) Remove the loading belt (8).
3) In case of drive pulley (10), loosen a screw (15) to remove it.
4) Loosen two screws (14), (16).
5) Remove the capasitor and lead wires at motor (6).
6) Loosen two screws (15).
7) Pull out the (5) from motor shaft.

* When inserting the pulley, the tip of loading motor shaft should be aligned with the top of face of the pulley.

F. Cam Ass'y (29)

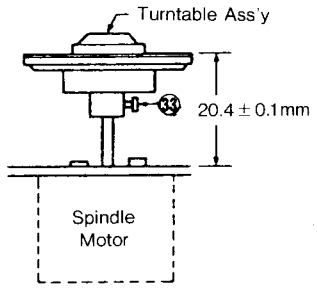
1) Remove the mechanism assembly.
2) Remove the mounting plate of the drive motor.
3) Loosen the screw (18) to remove the cam ass'y.

G. Spindle Motor (35)

1) Remove the mechanism assembly.
2) Remove the clamp ass'y (2).
3) Desolder the motor terminals to remove the lead wires.
4) Loosen a screw (33) to remove the turntable ass'y (46).
5) Loosen two screws (34) to remove the spindle motor (35).

* When inserting the motor, align the height of turntable as shown in the figure 3-1 and fix it with a screw (33).

Fig. 3-1



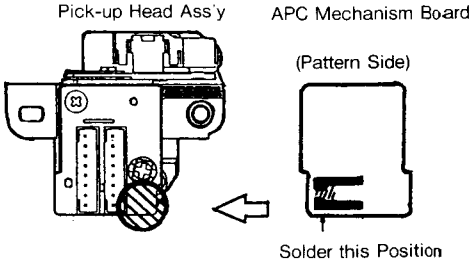
H. Pick-up Ass'y (26)

* Cautions when removing the pick-up ass'y:
Solder the points indicated in the figure before disconnecting the two lead connections.
This protects the pick-up from damage by static.

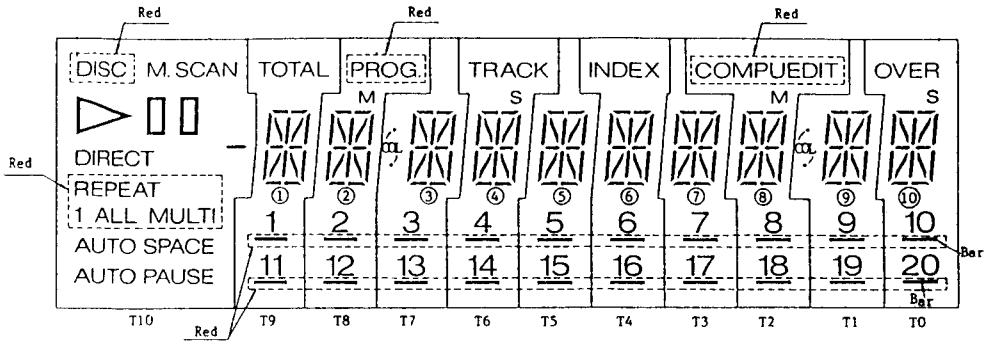
1) Remove the mechanism assembly.
2) Remove the drive belt (8).
3) Cut the wire bands as appropriate.
4) Loosen two screws at pick-up chassis for earth washer.
5) Loosen two screws (18) for sub chassis and pull out the pin of sub chassis from gutter of cam ass'y.
6) Loosen two screws (23) which fasten the coil holder-2 (24) toward upside.
7) Loosen two screws (28) which fasten the coil holder-1 (27) toward downside.
8) Loosen four screws (19) to remove the rails (22).
9) Remove the rails (22) and PU spacers (25).
10) Loosen one screw (23) which fasten the coil holder-2 (24) toward flank and take out then pick-up ass'y (26).

* Cautions when renewing the laser pick-up ass'y:
   a) Connect the two lead connections to the new one.
   b) Desolder the two points that were soldered to protect the device from static.

Fig. 3-2



4. TERMINAL ASSIGNMENT OF FL DISPLAY TUBE, CP5373GR



● Pin Assignment

1	F	19	S14
2	T0	20	S13
3	T1	21	S12
4	T2	22	S11
5	T3	23	S10
6	T4	24	S9
7	T5	25	S8
8	T6	26	S7
9	T7	27	S6
10	T8	28	S5
11	T9	29	S4
12	T10	30	S3
13	S20	31	S2
14	S19	32	S1
15	S18	33	S0
16	S17	34	S21
17	S16	35	S22
18	S15	36	F

● Grid & Anode Terminal Assignment (Refer to pin assignment.)

G \ A	T0	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10
S0	⑩ b	⑨ b	⑧ b	⑦ b	⑥ b	⑤ b	④ b	③ b	② b	① b	M. SCAN
S1	⑩ a	a	a	a	a	a	a	a	a	① a	DISC
S2	⑩ m	m	m	m	m	m	m	m	m	① m	□□
S3	⑩ n	n	n	n	n	n	n	n	n	① n	
S4	⑩ k	k	k	k	k	k	k	k	k	① k	
S5	⑩ c	c	c	c	c	c	c	c	c	① c	
S6	⑩ h	h	h	h	h	h	h	h	h	① h	▷
S7	⑩ u	u	u	u	u	u	u	u	u	① u	—
S8	⑩ p	p	p	p	p	p	p	p	p	① p	
S9	⑩ g	g	g	g	g	g	g	g	g	① g	DIRECT
S10	⑩ d	d	d	d	d	d	d	d	d	① d	
S11	⑩ t	t	t	t	t	t	t	t	t	① t	REPEAT
S12	⑩ r	r	r	r	r	r	r	r	r	① r	
S13	⑩ s	s	s	s	s	s	s	s	s	① s	
S14	⑩ f	f	f	f	f	f	f	f	f	① f	1
S15	⑩ e	⑨ e	⑧ e	⑦ e	⑥ e	⑤ e	④ e	③ e	② e	① e	ALL
S16	(20) Bar	(19) Bar	(18) Bar	(17) Bar	(16) Bar	(15) Bar	(14) Bar	(13) Bar	(12) Bar	(11) Bar	
S17	20	19	18	17	16	15	14	13	12	11	AUTO PAUSE
S18	(10) Bar	(9) Bar	(8) Bar	(7) Bar	(6) Bar	(5) Bar	(4) Bar	(3) Bar	(2) Bar	(1) Bar	AUTO SPACE
S19	10	9	8	7	6	5	4	3	2	1	MULTI
S20	OVER	⑨ COL	COMPUEDIT		INDEX		TRACK	③ COL	PROG.	TOTAL	
S21	S		M								
S22							S		M		

5. PARTS LIST OF BOARD

1. Some printed circuit boards are not supplied assembled. To separate these in this Parts List, the stock numbers are not indicated for these boards. However, stock numbers for individual parts are indicated.
2. Since some capacitors and resistors are omitted from parts lists in this service manual, refer to the Common parts list for capacitors and resistors, which was issued on June 1987.
3. Abbreviations in this parts list are as follows.

•Abbreviations List

C.R.	: Carbon Resistor	E.C.	: Electrolytic Capacitor
M.R.	: Metal Film Resistor	F.C.	: Film Capacitor
N.I.R.	: Non-Inflammable Resistor	P.C.	: Polystyrene Capacitor
		V.R.	: Variable Resistor
A.R.	: Array Resistor	S.V.R.	: Semi Variable Resistor
C.C.	: Ceramic Capacitor	SW.	: Switch

5-1. F-6100 PHONES Level Volume Board

Parts No.	Stock No.	Description
kVR1	49395600	20kΩ (A) V.R.,

5-2. F-6101 PHONES Jack Board

Parts No.	Stock No.	Description
oJ2	48831300	Jack,

5-3. F-6247 Main Board <Stock No.01189801>

Parts No.	Stock No.	Description
·Transistor		
fQ1	46359701	2SA952
fQ2	46367101	2SC2603
or	46367301	2SC2458
fQ3	46367101	2SC2603
or	46367301	2SC2458
fQ4	46719900	DTC124ES
·IC		
fIC1	48839900	CXA1081S
fIC2	49379400	CXA1082BQ
fIC3	48976700	CXD1125Q-Z
fIC4	48839700	CXK5816PN-12L
or	48984800	LC3517AL-15
or	49260400	CXK5816PN-15L
or	49260500	CXK5816PS-12L
or	49260600	CXK5816PS-15L
fIC5	48724200	μPD74HC74C
or	48726200	HD74HC74P
or	49343100	TC74HC74AP
·Diode		
fD1	03117600	IS2473T77
fR26	48757000	3.3kΩ 1/4W M.R.
fR32	48760600	100kΩ 1/4W M.R.
fR33	48760600	100kΩ 1/4W M.R.
⚠ fR60,61	46228200	22Ω 1/2W N.I.R.
fC2	49384900	47μF 50V E.C.
fC3	49384900	47μF 50V E.C.
fC4	49385000	100μF 50V E.C.
fC5	49384900	47μF 50V E.C.
fC6	48748400	0.1μF 50V C.C.
fC7	49384900	47μF 50V E.C.
fC8	48748400	0.1μF 50V C.C.
fC12	49356800	0.47μF 50V E.C.
fC13	49356800	0.47μF 50V E.C.
fC14	48748400	0.1μF 50V C.C.
fC21	49384700	10μF 50V E.C.
fC23	49384900	47μF 50V E.C.
fC25	49384300	3.3μF 50V E.C.
fC26	49384900	47μF 50V E.C.
fC27	49384900	47μF 50V E.C
fC28	49332400	0.01μF 100V F.C.
fC30	49384900	47μF 50V E.C.
fC31	48748400	0.1μF 50V C.C.
fC32	49384100	1μF 50V E.C.
fC33	49384500	0.049μF 50V E.C.
fC34	49331600	4700pF 100V P.C.
fC36	49384900	47μF 50V E.C.
fC37	49333600	0.033μF 100V P.C.
fC38	48748400	0.1μF 50V C.C.
fC39	49356800	0.47μF 50V E.C.
fC40	49332400	0.01μF 100V P.C.
fC41	48748400	0.1μF 50V C.C.
fC42	49385000	100μF 50V E.C.
fC43	48748400	0.1μF 50V C.C.
fC44	49384900	47μF 50V E.C.
fC60	49250700	0.047μF 100V P.C.
fC61	49250700	0.047μF 100V P.C.
fL1	48070700	Inductor
fVR1	46634500	22kΩ S.V.R.,Tracking Offset
fVR2	46634300	10kΩ S.V.R.,Focus Offset
fVR3	46634500	22kΩ S.V.R.,Tracking Gain
fVR4	46634500	22kΩ S.V.R.,Focus Gain
fVR5	48118800	2kΩ S.V.R.,VCO
·IC		
kIC1	48577000	M5216L
or	49385800	NJM4556L
kC4	49333000	0.018μF 100V P.C.
·Transistor		
⚠ mQ1	48150101	2SD1406
⚠ or	48508801	2SC3851

Parts No.	Stock No.	Description
mQ2	46367101	2SC2603
or	46367301	2SC2458
⚠ mQ3	48150801	2SB1015
⚠ or	48509101	2SA1488
mQ4	46367001	2SA1115
or	46367201	2SA1048
⚠ mQ5	46359801	2SC2001
mQ6	46367101	2SC2603
or	46367301	2SC2458
⚠ mQ7	48150101	2SD1406
⚠ or	48508801	2SC3851
⚠ mQ8	48150801	2SB1015
⚠ or	48509101	2SA1488
mQ10	46367101	2SC2603
or	46367301	2SC2458
mQ11	46367001	2SA1115
or	46367201	2SA1048
mQ12	46367101	2SC2603
or	46367301	2SC2458
·FET		
mFT1, 2	46643502	2SK163-L1
or	46643503	2SK163-L2
or	46643702	2SK246-BL
mFT4~8	46643502	2SK163-L1
or	46643503	2SK163-L2
or	46643702	2SK246-BL
·IC		
⚠ mIC1	49232100	M5F78M05L
⚠ mIC2	49233200	M5F79M05L
mIC3	49357000	NJM4580L
·Diode		
⚠ mD5	49350800	RDF02M
⚠ mD6	07112300	10DF2
⚠ mD7	07112300	10DF2
⚠ mD8	07112300	10DF2
⚠ mD9	07112300	10DF2
·Zener Diode		
mDZ1	49307500	05AZ22-Z
or	49307600	05AZ22-R
mDZ2	49307500	05AZ22-Z
or	49307600	05AZ22-R
mDZ3	49303300	05AZ6.2-Y
or	49303400	05AZ6.2-Z
mDZ4	49303300	05AZ6.2-Y
or	49303400	05AZ6.2-Z
mDZ7	49302500	05AZ4.7-Z
or	49302600	05AZ5.1-X
mDZ8	49302500	05AZ4.7-Z
or	49302600	05AZ5.1-X
·LED		
mDZ6	49325900	SEL3210S
mR10	46624300	100Ω 2W N.I.R.
mC5	46119100	47μF 50V E.C.
mC6	46119100	47μF 50V E.C.
mC7	46119500	220μF 50V E.C.
mC8	46119500	220μF 50V E.C.
mC9	49253300	39pF 100V P.C.
mC10	49253300	39pF 100V P.C.
mC11	49333000	0.018μF 100V P.C.
mC13	46119100	47μF 50V E.C.
mC14	46119700	470μF 50V E.C.
mC15	49328800	330pF 100V P.C.
mC16	49333000	0.018μF 100V P.C.
mC17	49333000	0.018μF 100V P.C.
mC18	49350600	4700μF 25V E.C.
mC19	49350600	4700μF 25V E.C.
mC20	49384900	47μF 50V E.C.
mC21	49384900	47μF 50V E.C.
mC22	48941200	220μF 50V E.C.
mC23	48941200	220μF 50V E.C.
mC37	49385300	1000μF 50V E.C.
mC38	49385200	470μF 50V E.C.

to be continued▶

<F-6247>

Parts No.	Stock No.	Description
mC54	49250700	0.47μF 100V P.C.
mC55	49385500	22μF 50V E.C.
mC56	49385500	22μF 50V E.C.
mVR1	46633900	2.2kΩ S.V.R., Output Level
•Transistor		
vQ50	46719900	DTC124ES
vQ51	46719900	DTC124ES
vQ52	46719900	DTC124ES
vQ53	46367001	2SA1115
or	46367201	2SA1048
vQ54	46719900	DTC124ES
vQ56	46719900	DTC124ES
•IC		
vIC1	49442500	MN6471M
vIC2	49357000	NJM4580L
vX01	49357400	Quartz Element HC-49/U
•Diode		
vD52	03117600	1S2473T77
vD54	03117600	1S2473T77
•Zener Diode		
vDZ53	49303300	05AZ6.2-Y
or	49303400	05AZ6.2-Z
vPH1	48730000	Photo Transistor, PC-827
vR42	46567300	47Ω 1/2W C.R.
vR43	46567300	47Ω 1/2W C.R.
vC1	49384900	47μF 50V E.C.
vC3	49385200	470μF 50V E.C.
vC4	48748400	0.1μF 50V C.C.
vC8	49385200	470μF 50V E.C.
vC9	48748400	0.1μF 50V C.C.
vC11	49385000	100μF 50V E.C.
vC13	49385000	100μF 50V E.C.
vC14	48060400	220pF 125V P.C.
vC15	48060400	220pF 125V P.C.
vC16	49333000	0.018μF 100V P.C.
vC17	49333000	0.018μF 100V P.C.
vC51	48941300	220μF 50V E.C.
vC52	49384700	10μF 50V E.C.
vC53	49384100	1μF 50V E.C.
vL1	48070000	Inductor
vL2	49382000	Low Pass Filter
vL4	48070000	Inductor
vRL2	48057000	Relay, 24V
or	48057001	Relay

5-4. F-6102 POWER Indicator Board

Parts No.	Stock No.	Description
nLD1	48841300	SEL3813A

5-5. F-6103 TIMER Switch Board

Parts No.	Stock No.	Description
oS35	49357300	Slide SW.,

5-6. F-6104 POWER Switch Board

Parts No.	Stock No.	Description
⚠ pC1	46425800	0.01μF 400V C.C.
⚠ pC2	46371700	4700pF 400V C.C.
⚠ pC3	46425800	0.01μF 400V C.C.
⚠ pL1	48727800	Line Filter LF-2C
⚠ pS1	48846300	Push Switch, POWER

5-7. F-6099 Control Switch Board

<Stock No.01143801>

Parts No.	Stock No.	Description
nFL1	49350700	FL. Display Tube CP5373GR
oS1	49326300	Push Switch, C.EDIT
oS2	49326300	Push Switch, 1
oS3	49326300	Push Switch, 2
oS4	49326300	Push Switch, 3
oS5	49326300	Push Switch, M.SCAN
oS6	49326300	Push Switch, 4
oS7	49326300	Push Switch, 5
oS8	49326300	Push Switch, 6
oS9	49326300	Push Switch, 7
oS10	49326300	Push Switch, 8
oS11	49326300	Push Switch, 9
oS12	49326300	Push Switch, +10
oS13	49326300	Push Switch, 10Key MODE
oS14	49326300	Push Switch, 10
oS15	49326300	Push Switch, 0
oS16	49326300	Push Switch, CLEAR
oS17	49326300	Push Switch, ▶▶
oS18	49326300	Push Switch, DISP
oS19	49326300	Push Switch, SET
oS20	49326300	Push Switch, CHECK
oS21	49326300	Push Switch, ▶▶|
oS22	49326300	Push Switch, |◀◀
oS23	49326300	Push Switch, ◀◀
oS24	49326300	Push Switch, INDEX→
oS25	49326300	Push Switch, ▶
oS26	49326300	Push Switch, ▮▮
oS27	49326300	Push Switch, START
oS28	49326300	Push Switch, ←INDEX
oS29	49326300	Push Switch, RANDOM
oS30	49326300	Push Switch, AUTO SP
oS31	49326300	Push Switch, REPEAT
oS32	49326300	Push Switch, MULTI
oS33	49326300	Push Switch, OPEN/CLOSE
oS34	49326300	Push Switch, ■
wIC4	49356200	Remote Receive Unit GP1U521X
•Transistor		
wQ51	46719800	DTA124ES
wQ52	46719800	DTA124ES
wQ53	49325700	DTC114YL
•IC		
wIC3	49351200	CXP5058H-508Q
wR61	48774800	100kΩ×8 A.R.
wR62	48777300	10kΩ×10 A.R.
wC50	48941500	100μF 25V E.C.
wC51~54	48748400	0.1μF 50V C.C.

5-8. F-6248 Control IC Board

<Stock No.01190001>

Parts No.	Stock No.	Description
•IC		
wIC1	49351300	μPD75008CU-030
or	49382200	μPD75P008CU
wIC2	49396100	TCA0372DP1
wX01	46925800	Ceramic OSC Element KBR 4.19M
wC3	48748400	0.1μF 50V C.C.
wC4	48748400	0.1μF 50V C.C.
wC5	48748400	0.1μF 50V C.C.
wC6	49384900	47μF 50V E.C.
wC7	49384900	47μF 50V E.C.
wC8	48941500	100μF 25V E.C.

5-9. F-6105 Digital Signal Output Board
<Stock No.01144501>

Parts No.	Stock No.	Description
fIC7	49352600	Optical Received Module
·Transistor		
fQ5	46367001	2SA1115
	or 46367201	2SA1048
·IC		
fIC6	49318600	TC74HCU04AP
fC47	48748400	0.1μF 50V C.C.
fC48	49384900	47μF 50V E.C.
fC49	48748400	0.1μF 50V C.C.
fC50	49384900	47μF 50V E.C.
fC51	48748400	0.1μF 50V C.C.
fT1	49197000	Transformer
·Transistor		
⚠ mQ9	46614001	2SA1283
·Diode		
⚠ mD1	07112300	10DF2
⚠ mD2	07112300	10DF2
⚠ mD3	07112300	10DF2
⚠ mD4	07112300	10DF2
⚠ mD10	49350800	RDF02M
·Zener Diode		
mDZ9	49309700	05AZ39-X
	or 49309800	05AZ39-Y
mDZ10	49303000	05AZ5.6-Y
	or 49303100	05AZ5.6-Z
⚠ mR21	46402000	10kΩ 1/2W N.I.R.
mC1	49333000	0.018μF 100V P.C.
mC2	49333000	0.018μF 100V P.C.
mC3	49265700	3300μF 35V E.C.
mC4	49265700	3300μF 35V E.C.
mC28	49333000	0.018μF 100V P.C.
mC29	49385400	470μF 63V E.C.
mC34	48748400	0.1μF 50V C.C.
oS36	48834900	Slide SW.,DIGITAL OUT
oJ3	49443600	1P Terminal,COAXIAL

5-10. F-6251 Analog Signal Amp. Board
<Stock No.01190301>

Parts No.	Stock No.	Description
·Transistor		
vQ1	46581701	2SC1845
vQ2	46581601	2SA992
vQ3	46581701	2SC1845
vQ4	46581601	2SA992
·IC		
vIC4	49357000	NJM4580L
vC24	49333000	0.018μF 100V P.C.
vC25	49333000	0.018μF 100V P.C.

5-11. F-6249 Motor Driving Board
<Stock No.01190101>

Parts No.	Stock No.	Description
·Transistor		
fQ100	46359801	2SC2001
fQ101	46359701	2SA952
fQ102	46359801	2SC2001
fQ103	46359701	2SA952
fQ108	46359801	2SC2001
fQ109	46359701	2SA952
fQ110	46359801	2SC2001
fQ111	46359701	2SA952
fQ112	46359801	2SC2001
fQ113	46359701	2SA952
fQ114	46359801	2SC2001
fQ115	46359701	2SA952
·IC		
fIC8	49357000	NJM4580L
fIC9	49396100	TCA0372DP1
fIC10	49357000	NJM4580L
fIC11	49357000	NJM4580L
⚠ fR106	46228200	22Ω 1/2W N.I.R.
⚠ fR114,115	46228200	22Ω 1/2W N.I.R.
fC100	48088400	0.1μF 50V F.C.
fC101	48087200	0.033μF 50V F.C.
fC102	49250700	0.047μF 100V P.C.
fC104	48087600	0.047μF 50V F.C.
fC105	49250700	0.047μF 100V P.C.
fC111	49385300	1000μF 50V E.C.
fC120	48088400	0.1μF 50V F.C.
fC121	48088400	0.1μF 50V F.C.
fC122	48088400	0.1μF 50V F.C.
fC123	48088400	0.1μF 50V F.C.

5-12. F-6250 De-Emphasis Board
<Stock No.01190201>

Parts No.	Stock No.	Description
·Transistor		
vQ55	46719900	DTC124ES
·IC		
vIC3	49357000	NJM4580L
·Diode		
vD53	03117600	1S2473T77
·Zener Diode		
vDZ52	49303300	05AZ6.2-Y
	or 49303400	05AZ6.2-Z
vC18	48061200	1000pF 125V P.C.
vC19	49330000	1000pF 100V P.C.
vC20	49333000	0.018μF 100V P.C.
vC21	49333000	0.018μF 100V P.C.
vC22	49332200	8200pF 100V P.C.
vL3	49381900	Low Pass Filter
vVR1	48978300	330Ω S.V.R.,DC Offset
vVR2	48978300	330Ω S.V.R.,DC Offset
vRL1	48057000	Relay, 24V
	or 48057001	Relay

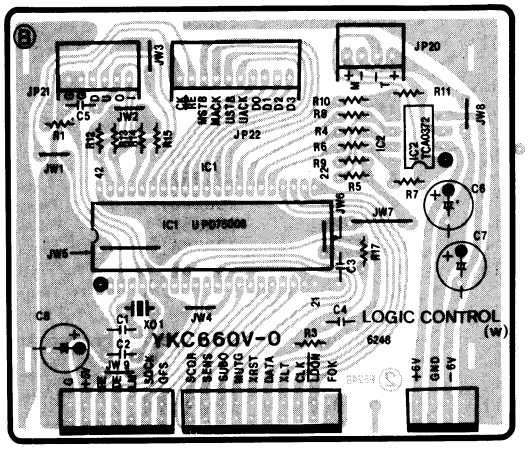
5-13. F-6252 OUTPUT-1 Terminal Board

Parts No.	Stock No.	Description
oJ1	49374800	2P Terminal,OUTPUT-L
vR47	46568100	100Ω 1/2W C.R.

6. PARTS LOCATION ON BOARD

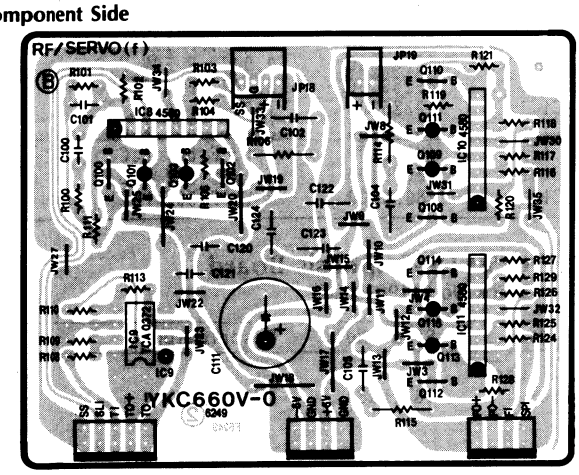
6-1. F-6248 Control IC Board

Component Side



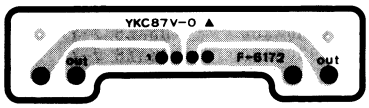
6-2. F-6249 Motor Driving Board

Component Side



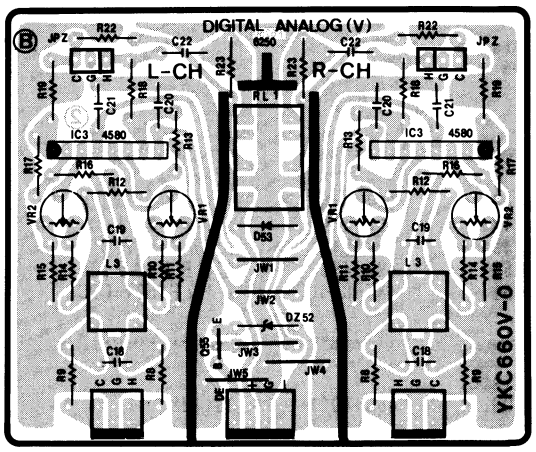
6-3. F-6172 Wire Relay Board

Component Side



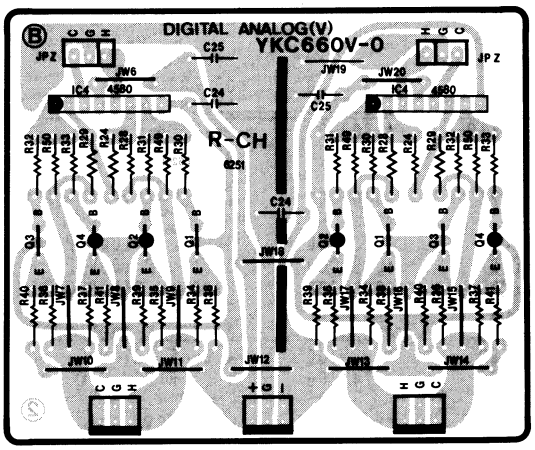
6-4. F-6250 De-Emphasis Board

Component Side



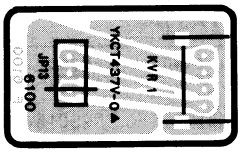
6-5. F-6251 Analog Signal Amp. Board

Component Side



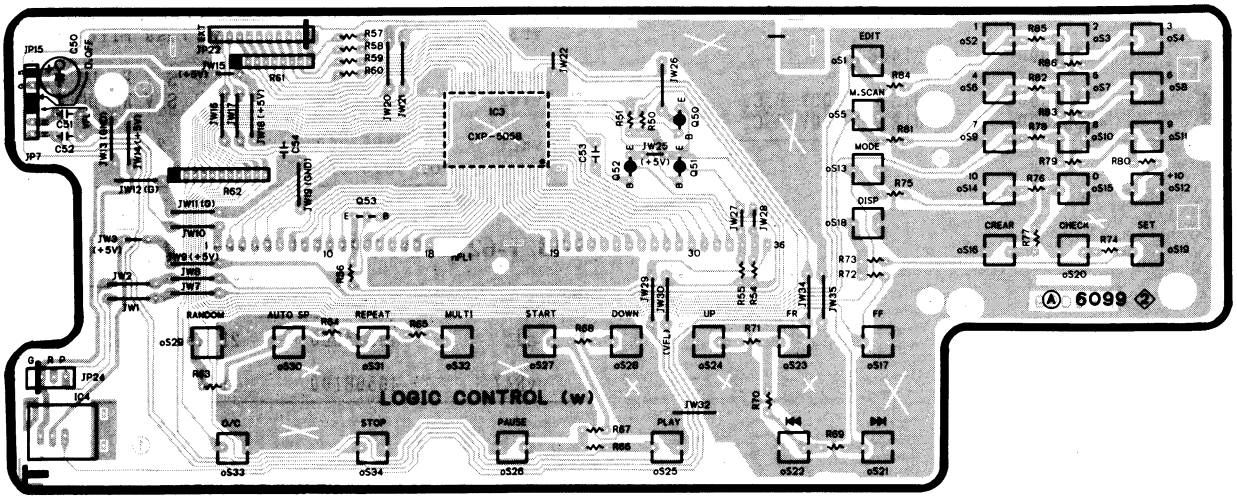
6-6. F-6100 PHONES Level Volume Board

Component Side



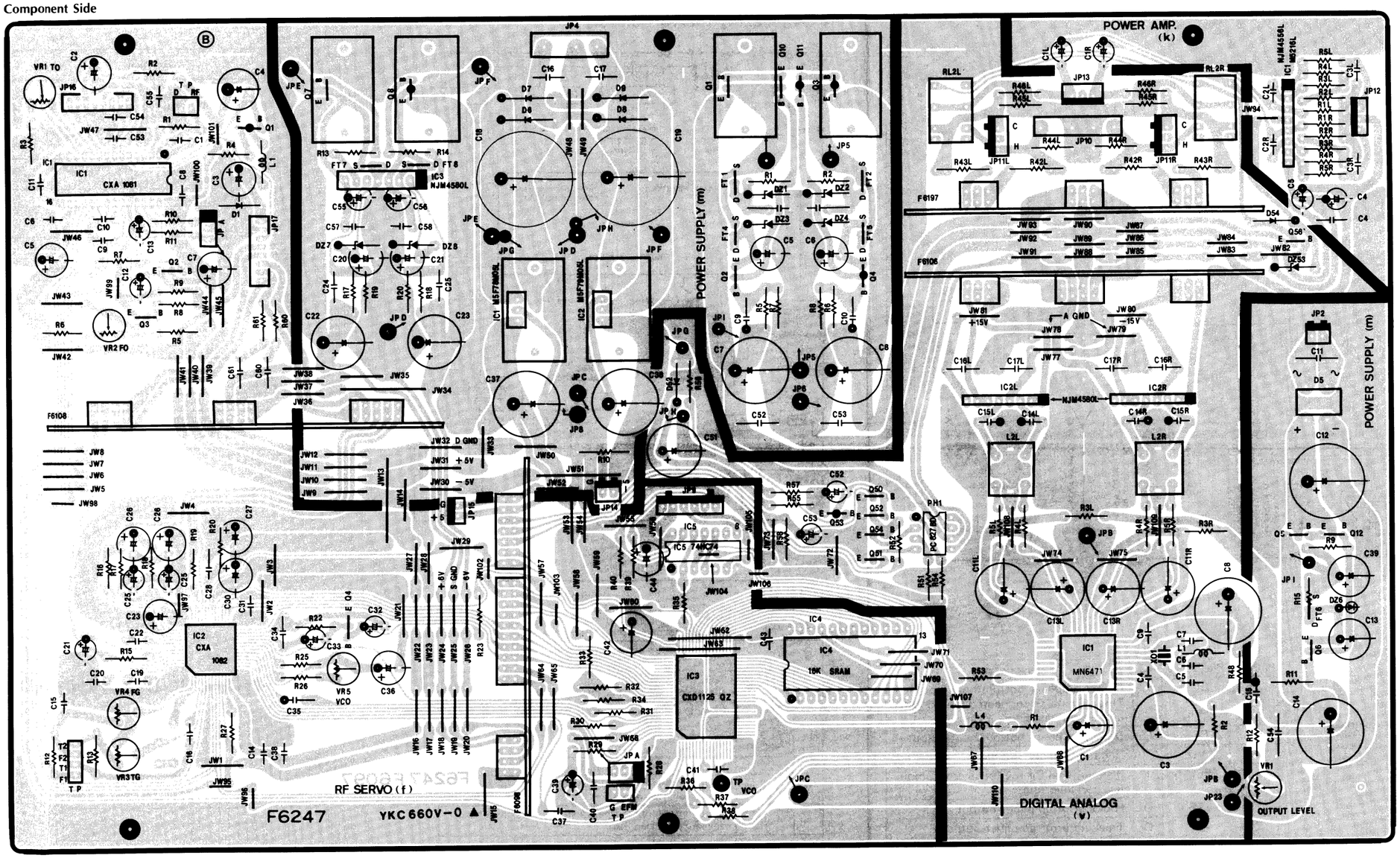
6-7. F-6099 Control Switch Board

Component Side



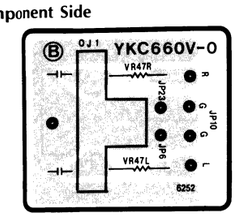
6-8. F-6247 Main Board

Component Side



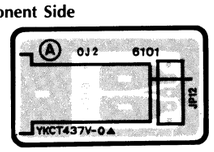
6-9. F-6252 OUTPUT-1 Terminal Board

Component Side



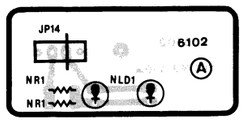
6-10. F-6101 PHONES Jack Board

Component Side



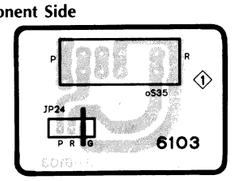
6-11. F-6102 POWER Indicator Board

Component Side



6-12. F-6103 TIMER Switch Board

Component Side

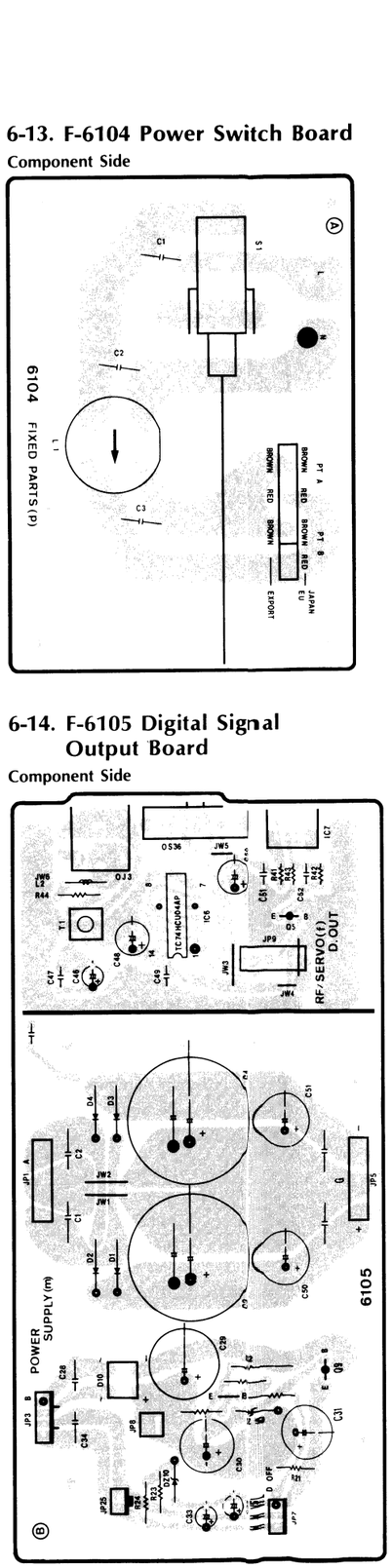


6-13. F-6104 Power Switch Board

Component Side

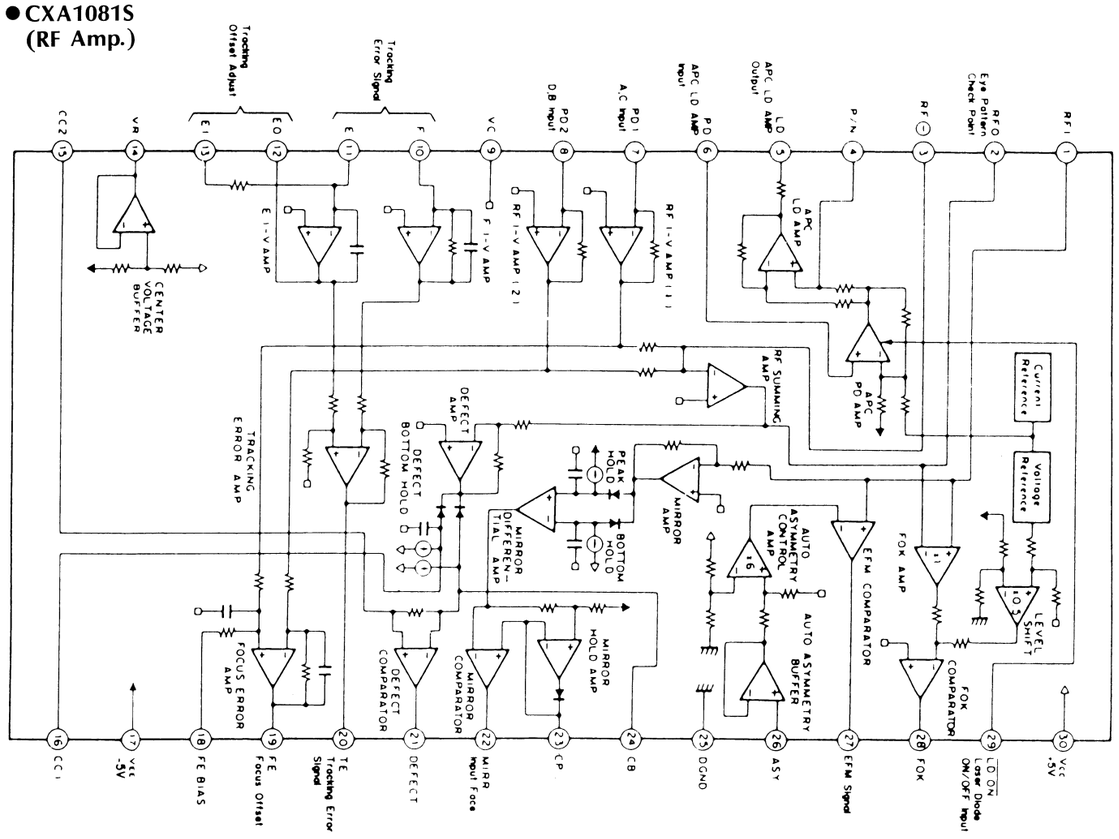
6-14. F-6105 Digital Signal Output Board

Component Side



7.SCHEMATIC DIAGRAM, INTERIOR BLOCK DIAGRAM & TERMINAL FUNCTION OF ICs

● CXA1081S
(RF Amp.)

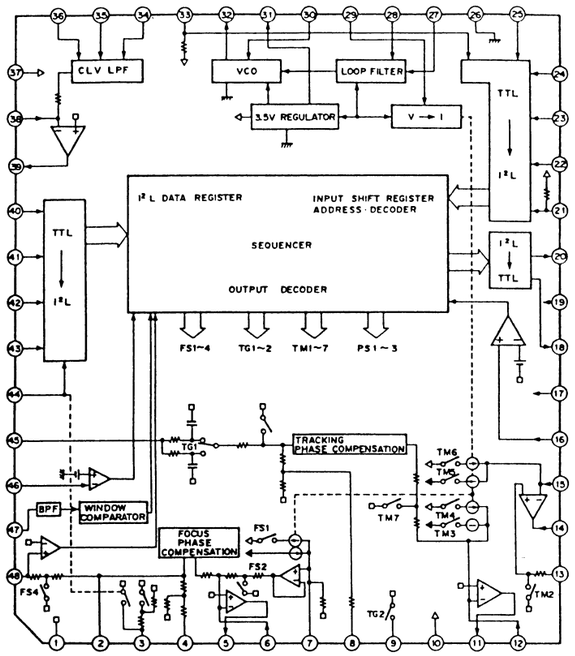


♦ Terminal Function <CXA1081S>

Pin No.	Pin Name	I/O	Description
1	RFI	I	RF summing amplifier input.
2	RFO	O	RF summing amplifier input.
3	RF ⊖	I	RF Summing amplifier feedback signal input.
4	P/N	I	Terminal for switching P-sub/N-sub of LD (laser diode).
5	LD	O	APC LD amplifier output.
6	PD	I	APC PD amplifier input.
7	PD1	I	RF I-V amplifier (1) inverting input. This terminal is connected to the pin diode (A + C).
8	PD2	I	RF I-V amplifier (2) inverting input. This terminal is connected to the pin diode (B + D).
9	VC	—	Ground
10	F	I	F I-V amplifier inverting input. This terminal is connected to the pin diode (F).
11	E	I	E I-V amplifier inverting input. This terminal is connected to the pin diode (E).
12	EO	O	E I-V amplifier output.
13	EI	I	E I-V amplifier feedback input.
14	VR	O	(VCC + VEE)/2 voltage output.

Pin No.	Pin Name	I/O	Description
15	CC2	I	Defect amplifier bottom hold input. This terminal is connected Pin 16 with a coupling capacitor.
16	CC1	O	Defect amplifier bottom hold output.
17	VEE	—	Negative supply voltage: — 5V.
18	FEBIAS	I	Bias terminal for the focus error amplifier non-inverting.
19	FE	O	Focus error amplifier output.
20	TE	O	Tracking error amplifier output.
21	DEFECT	O	Defect comparator output.
22	MIRR	O	Mirror comparator output.
23	CP	I	Mirror comparator non-inverting input. This terminal is connected a mirror hold capacitor.
24	CB	I	This terminal is connected a defect bottom hold capacitor.
25	DGND	—	Ground.
26	ASY	I	Auto asymmetry buffer control signal input.
27	EFM	O	EFM comparator output.
28	FOK	O	FOK comparator output.
29	$\overline{\text{LD ON}}$	I	Laser diode ON/OFF switching input.
30	VCC	—	Positive supply voltage: + 5V.

● CXA1082BQ (Servo Control)



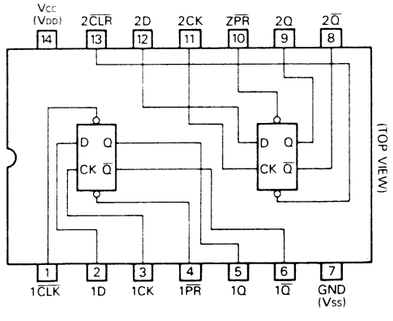
Pin No.	Pin Name	Function
2	FGD	A condenser is inserted between this pin and pin 3 to decrease focus servo high-frequency gain.
3	FS3	Switches focus servo high-frequency gain when FS3 is turned ON/OFF.
4	FLB	Input terminal for the time constant used to increase focus servo low-frequency characteristic.
5 11 14 39	FEO TAO SLO SPDLO	OP Amp output terminal for power transistor driver.
6	FE ⊖	Focus amplifier turnover input terminal.
7	SRCH	Input terminal for the time constant used to generate the focus search waveform.
8	TGU	Input terminal for the time constant used to switch high-frequency tracking gain.
9	TG2	Input terminal for the time constant used to switch high-frequency tracking gain.
12	TA ⊖	Tracking amplifier turnover input terminal.
13	SL ⊕	Thread amplifier non-turnover input terminal.
15	SL ⊖	Thread amplifier turnover input terminal.
16	SSTOP	Terminal for detecting innermost turn detection limit switch ON/OFF.
17	FSET	Terminal for setting focus tracking phase-compensation peaks and CLV LPF fo.
18 20	SENS C OUT	Microcomputer interface output terminal.
21 22 23 24 25 33	DIRCT XRST DATA XLT CLK LOCK	Microcomputer interface input terminal. Pins 21 and 33 are provided with 47 kΩ pullup resistors.

Pin No.	Pin Name	Function
27	BW	Loop filter time constant input terminal.
28	PDI	CX23035/CXD1125 phase comparator output PDO input terminal.
29	ISET	Supplies the current used to determine focus search, track jump and thread kick height.
30	VCOF	VCO free-frequency is practically proportional to the resistance between this pin and pin 31.
32	C864	8.64 MHz VCO output terminal.
34	MDP	This terminal is connected to the CX23035/CXD1125 MDP terminal.
35	MON	This terminal is connected to the CX23035/CXD1125 MON terminal.
36	FSW	CLV servo error signal LDF time constant input terminal.
38	SPDL ⊖	Spindle drive amplifier turnover input terminal.
40 42 42 44	WDCK FOK MIRR DFCT	Interface input terminal for microcomputer, etc.
45	TE	Tracking error signal input terminal.
46	TZC	Tracking zero-cross comparator input terminal.
47	ATSC	ATSC detecting window comparator input terminal.
48	FE	Focus error signal input terminal.

● TC74HC74P/μPD74HC74C (D-type Flip-Flop)

INPUTS				OUTPUTS		FUNCTION
CLR	PR	D	CK	Q	$\overline{Q}$	
L	H	X	X	L	H	CLEAR
H	L	X	X	H	L	RESET
L	L	X	X	H	H	—
H	H	L		L	H	—
H	H	H		H	L	—
H	H	X		Qn	$\overline{Qn}$	NO CHANCE

X : Don't Care

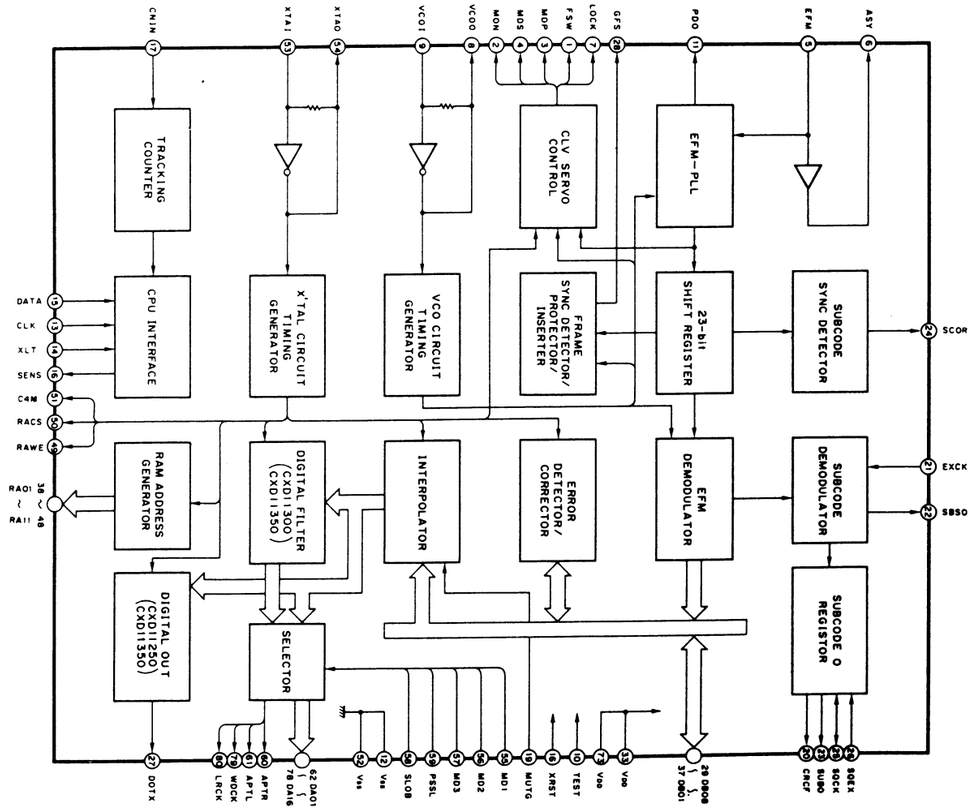


● μPD75008 (Micro Computer)

Pin No.	Pin Name	I/O	Description
3	$\overline{\text{RESET}}$	I	Terminal for inputting a reset signal.
8	XRST	O	Terminal for inputting a reset signal to the CXA1082 and CXD1125Q.
9	MUTG	O	Terminal for outputting a muting signal. Active..."H" level.
10	DE	O	Terminal for outputting a De-emphasis drive signal.
11	$\overline{\text{LMUT}}$	O	Terminal for outputting a line muting signal. Active..."H" level.
12	SUBQ	I	Subcording Q-channel signal input from the CXD1125.
14	SQCK	I	Terminal to input a clock for subcording Q-channel signal from the CXD1125.
16	GFS	I	Terminal to input a signal for frame sync locked condition from the CXD1125.
17	FOK	I	Terminal to input a signal for focus servo OK. Focus servo OK mode in "H" level.
18	SCOR	I	Terminal to input a subcording sync S0+S1 from the CXD1125.
19	SENS	I	Terminal to input a condition signal from the CXA1082 and CXD1125.
21	V_{DD}	-	Positive supply voltage: +5V.
22	$\overline{\text{LDON}}$	O	Terminal to output a signal for the laser diode ON.
23	CLK	O	Terminal to output a clock for serial data to the CXA1082 and CXD1125.

Pin No.	Pin Name	I/O	Description
24	XLT	O	Terminal to output a latch signal for serial data to the CXA1082 and CXD1125.
25	DATA	O	Terminal to output a serial data to the CXA1082 and CXD1125.
26 27	ME UP ME DOWN	O	Terminal to output a signal for mechanism motor drive.
28 29	TRAYOUT TRAY IN	O	Terminal to output a signal for loading motor drive.
30	MSTB	O	Terminal to output a timing signal for parallel data to the CXP5058.
31	MACK	O	Terminal to output a reseponse signal for parallel data to the CXP5058.
32	USTB	I	Terminal to input a timing signal for parallel data from the CXP5058.
33	UACK	I	Terminal to input a reseponse signal for parallel data from the CXP5058.
34~ 37	D0~D3	I/O	Data bus lines from/to the CXP5058.
38 39	M.SW UP M.SW	I	Terminal for inputting a signal from the mechanism up/down switches.
40 41	TRAY OUT TRAY IN	I	Terminal for inputting a signal from loading in/out switches.

● CXD1125Q (Digital Signal Processing)



◆ Terminal Function <CXD1125Q>

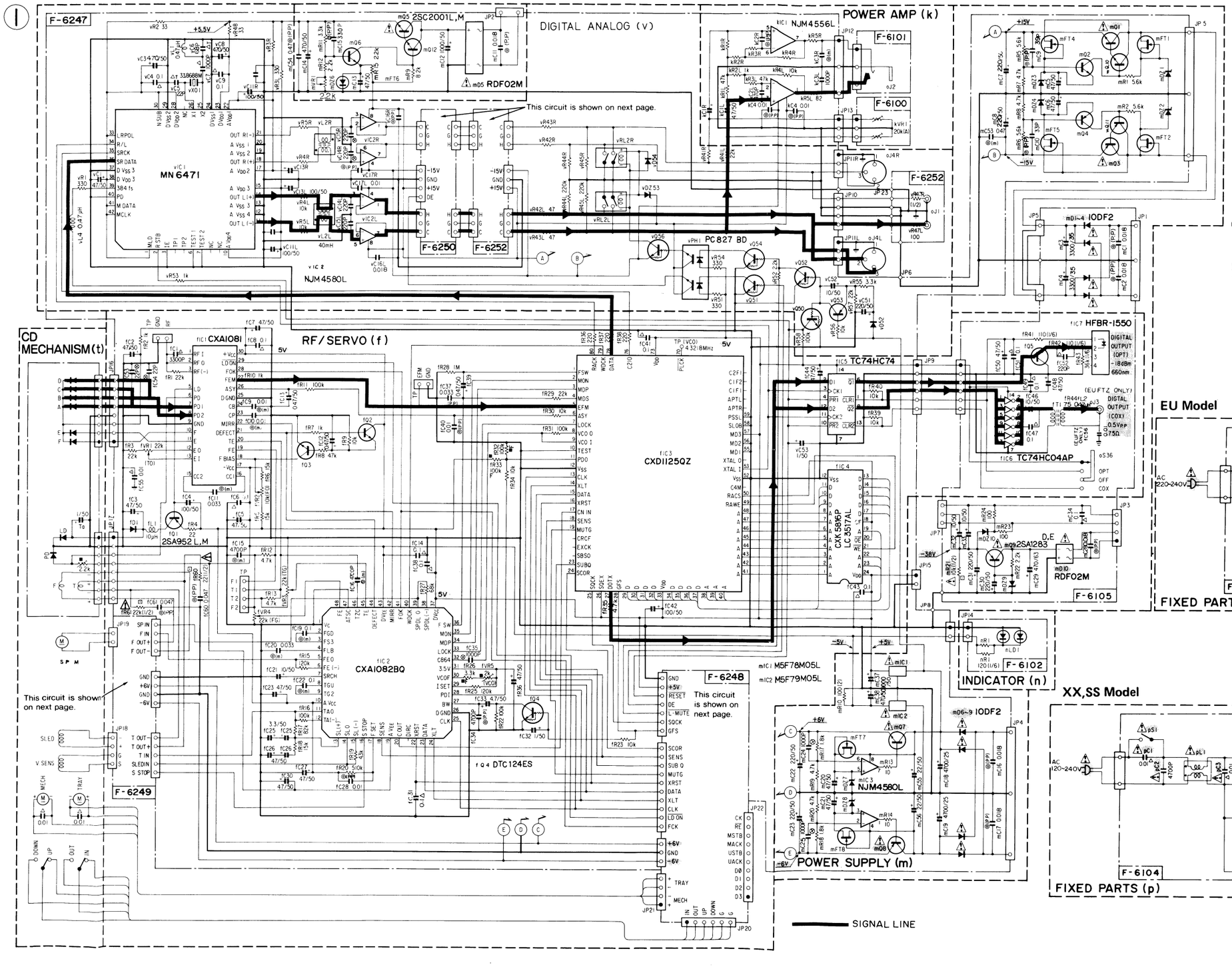
Pin No.	Pin Name	I/O	Description
1	FSW	O	Terminal to output a time constant switching signal for output-filter of spindle motor.
2	MON	O	Terminal to output a control signal for spindle motor ON/OFF.
3	MDP	O	Spindle motor drive output. For CLV-S mode rough control and CLV-P mode phase control.
4	MDS	O	Spindle motor drive output. For CLV-P mode speed control.
5	EFM	I	Terminal to input a EFM signal from RF amplifier (CXA1081S).
6	ASY	O	Terminal to output a control signal for EFM signal slice level.
7	LOCK	O	The GFS signal is sampled at WFCK/16: if "H", "H" is output through this terminal. If "L" for 8 consecutive times, "L" is output.
8	VCOO	O	VCO output. When locked to the EFM signal, f = 8.6436 MHz.
9	VCOI	I	VCO input.
10	TEST	I	(0 V).
11	PDO	O	Terminal to output a phase comparison signal for EFM signal and VCO/2.
12	V_{ST}	—	Ground (0 V)
13	CLK	I	Terminal to input a transfer clock for serial data from the μPD75008 . Serial data is latched on the rasing edge of the transfer clock.
14	XLT	I	Terminal to input a latch signal from the μPD75008 . Latches a data (serial data from the μPD75008) of 8-bit shift register to each register.
15	DATA	I	Serial data input from the μPD75008 .
16	XRST	I	System reset input. Reset is performed at "L" input.
17	CNIN	I	Tracking pulse input.
18	SENS	O	Outputs internal condition data for each address.
19	MUTG	I	Muting input. When the internal register ATTM is "L", MUTG sets the normal condition at "L" input, and the muted condition at "H" input.
23	SUBQ	O	Subcording Q data output.
24	SCOP	O	Subcording data sync S0 + S1 output.
25	SQCK	I/O	Subcording Q data readout clock input/output.
27	DOTX	I	Digital data output.
28	GFS	O	Frame sync locked condition indicating output.
29	DB_{08}	I/O	External RAM data terminal. $DATA_8$ (MSB)
30	DB_{07}	I/O	External RAM data terminal. $DATA_7$
31	DB_{06}	I/O	External RAM data terminal. $DATA_6$
32	DB_{05}	I/O	External RAM data terminal. $DATA_5$
33	V_{DD}	—	Positive supply voltage.
34	DB_{04}	I/O	External RAM data terminal. $DATA_4$
35	DB_{03}	I/O	External RAM data terminal. $DATA_3$
36	DB_{02}	I/O	External RAM data terminal. $DATA_2$
37	DB_{01}	I/O	External RAM data terminal. $DATA_1$ (LSB)
38	RA_{01}	I/O	External RAM address output. $ADDR_{01}$ (LSB)
39	RA_{02}	I/O	External RAM address output. $ADDR_{02}$
40	RA_{03}	I/O	External RAM address output. $ADDR_{03}$
41	RA_{04}	I/O	External RAM address output. $ADDR_{04}$
42	RA_{05}	I/O	External RAM address output. $ADDR_{05}$
43	RA_{06}	I/O	External RAM address output. $ADDR_{06}$
44	RA_{07}	I/O	External RAM address output. $ADDR_{07}$
45	RA_{08}	I/O	External RAM address output. $ADDR_{08}$
46	RA_{09}	I/O	External RAM address output. $ADDR_{09}$
47	RA_{10}	I/O	External RAM address output. $ADDR_{10}$
48	RA_{11}	O	External RAM address output. $ADDR_{11}$
49	RAWE	O	Write enable signal output to the external RAM (active at "L").
50	RACS	O	Chip select signal output to the external RAM (active at "L").
51	C_4M	O	X'tal division output. f = 4.2336 MHz.
52	V_{SS}	—	Ground (0V).
53	XTAI	I	X'tal oscillator circuit input. f = 8.4672 MHz or 16.9344 MHz, depending on the selected mode.
54	XTAO	O	X'tal oscillator circuit input. f = 8.4672 MHz or 16.9344 MHz, depending on the selected mode.
55	MD_1	I	Mode selection input 1.
56	MD_2	I	Mode selection input 2.
57	MD_3	I	Mode selection input 3.
58	SLOB	I	Terminal to input a switching signal for audio data output cord. Serial data output at "H". Parallel data output at "L".
59	PSSL	I	Audio data output mode switching input serial output at "L", and parallel output at "H".
62	DA_{01}	O	Outputs DA_{01} (parallel audio data, LSB) when PSSL = "H", and C1F1*1 when PSSL = "L".
63	DA_{02}	O	Outputs DA_{02} when PSSL = "H", and C1F2*1 when PSSL = "L".
70	DA_{09}	O	Outputs DA_{09} when PSSL = "H", and $\overline{\text{PLCK}}$*2 when PSSL = "L".
71	DA_{10}	O	Outputs DA_{10} when PSSL = "H", and UGFS *3 when PSSL = "L".
72	DA_{11}	O	Outputs DA_{11} when PSSL = "H", and GTOP *4 when PSSL = "L".
73	V_{DD}	—	Positive supply voltage: + 5 V.
74	DA_{12}	O	Outputs DA_{12} when PSSL = "H", and RAOV *5 when PSSL = "L".
75	DA_{13}	O	Outputs DA_{13} when PSSL = "H", and C_4LR *6 when PSSL = "L".
76	DA_{14}	O	Outputs DA_{14} when PSSL = "H", and $\overline{C_{21}O}$*7 when PSSL = "L".
77	DA_{15}	O	Outputs DA_{15} when PSSL = "H", and $C_{21}O$*8 when PSSL = "L".
78	DA_{16}	O	Outputs DA_{16} (parallel audio data MSB: when PSSL = "H", and DATA*9 when PSSL = "L".
79	WDCK	O	Strobe signal output. 176.4 kHz at DF ON, 88.2 kHz at DF OFF.
80	LRCK	O	Strobe signal output. 88.2 kHz at DF ON, and 44.1 kHz at DF OFF.

*NOTES:
1. C1F1: C1 decoding error correction condition
   C1F2: data monitoring output.
2. $\overline{\text{PLCK}}$: VCO/2 output. f = 4.3218MHz when locked to the FFM signal.
3. UGFS: Unprotected frame sync pattern output.
4. GTOP: Frame synchronization projected condition indication output.
5. RAOV: ±4-frame jitter absorbing RAM overflow/under flow indicating output.
6. C4LR: Strobe signal. 352,8 kHz at DF ON, 176.4 kHz at DF OFF.
7. $\overline{\text{C210}}$: C210 inverting output.
8. C210: Bit clock output 4.2336 MHz at DF ON, 2.1168 MHz at DF OFF.
9. DATA: Audio signal serial data output.

A	B	C	D	E	F	G	H

● SCHEMATIC DIAGRAM (Main Section)

- Design and specifications subject to change without notice for improvement.
- La présention et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
- Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



SYMBOL OF FUNCTION
(f) RF/SERVO
(k) POWER AMP
(m) POWER SUPPLY
(n) INDICATOR
(o) SELECTOR
(p) FIXED PARTS
(t) CD MECHANISM
(v) DIGTAL ANALOG
(w) LOGIC CONTROL

PARTS NO	TYPE NO
fD1, vD52,54	1S2473
mDZ 1,2	05AZ22Z,R
mDZ 3,4 vDZ53	05AZ6.2Y,Z
mDZ 6	SEL3210S
mDZ 7,8	05AZ4.7Z, 5.1X
mDZ9	05AZ39X,Y
mDZ10	05AZ5.6Y,Z
mFT1,2,4,5,6,7,8	2SK163 L1,L2 2SK246 BL
mQ 1,7	2SC3851Y, 2SD1406Y,
mQ2, 6, 12 mQ10, fQ2, 3	2SC2603F,E 2SC2458GR,Y
mQ3, 8	2SA1488Y,O 2SB1015Y,O
mQ4, fQ5 mQ11	2SA1115F,E 2SA1048GR,Y
vQ50,51,52,54,55,56	DTC124ES
vQ53	2SA1048Y,GR 2SA1115E,F

SYMBOL
△ Ceramic Capacitor
△T Ceramic (Temperature Compensation)
△ Barrier Layer Capacitor
◎(p.p) Polypropylene
◎(m) Bi-Poler Electrolytic
⊗ Polystyrene
(B.P) Bi-Poler Electrolytic
Ta Tantalum Electrolytic
□ Non-Inflammable Resistor
■ Metal-Film Resistor

⚠ is Safety Part
Use only replacement parts

RESISTORS
Are in ohms, 1/4 Watts, ±5% Tolerance
Unless Otherwise Noted. k: kΩ, M: MΩ

CAPACITORS
Are in μF, Unless Otherwise Noted. P: pF

TOLERANCE
J: ±5%, G: ±2%, F: ±1%

Electrolytic Capacitor
Capacitance (μF) / Volt (V)

Each D.C Voltage shows the nominal value in volts at playing

A	B	C	D	E	F	G	H

● SCHEMATIC DIAGRAM (Micro Computer & Analog Output Amp. Section)

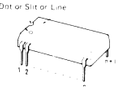
- Design and specifications subject to change without notice for improvement.
- La présention et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
- Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

RDF02M

HD74HC74P
TCA0372DP1
TC74HCU04AP
TC74HC74AP
μPD75P008CU
μPD75008CU
CXK5816PN-12L
CXK5816PN-15L
CXK5816PS-12L
CXK5816PS-15L
CXA1081S
LC3517AL-15
μPD74HC74C

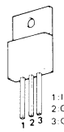
1S2473

Dot or Slit or Line



10DF2

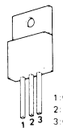
M5F78M05L



1:INPUT
2:OUTPUT
3:GND

05AZ22
05AZ39
05AZ4.7
05AZ5.6
05AZ6.2

M5F79M05L



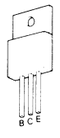
1:GND
2:INPUT
3:OUTPUT

2SK246

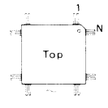
DTC114YL
2SA1048
2SA1115
2SC2603

2SK163

2SB1015



CXP5058H-508Q
CXA1082BQ
MN6471M
CXD1125QZ

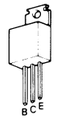


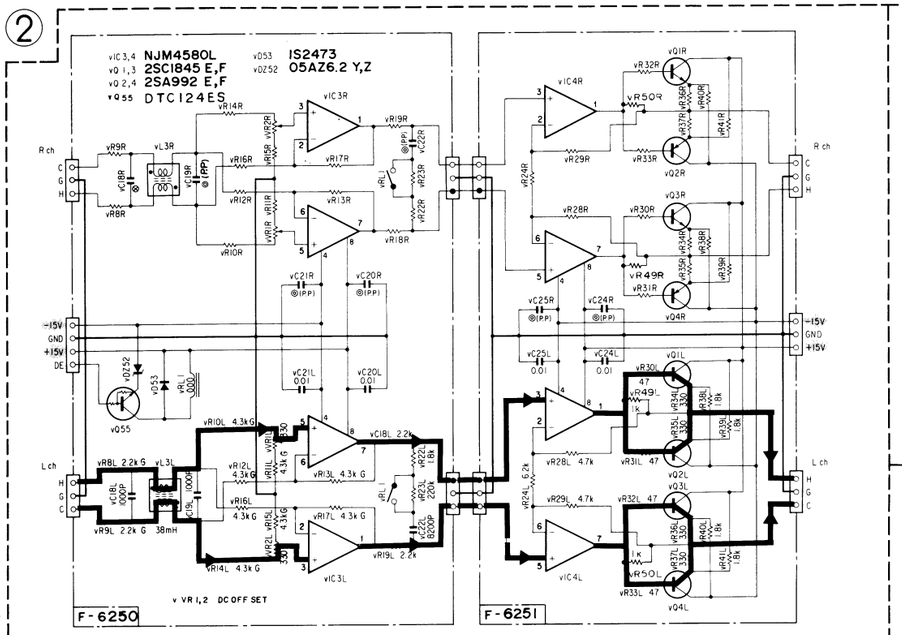
NJM4556L
NJM4580L
M5216L

2SA1283
2SA952
2SA992
2SC1845
2SC2001

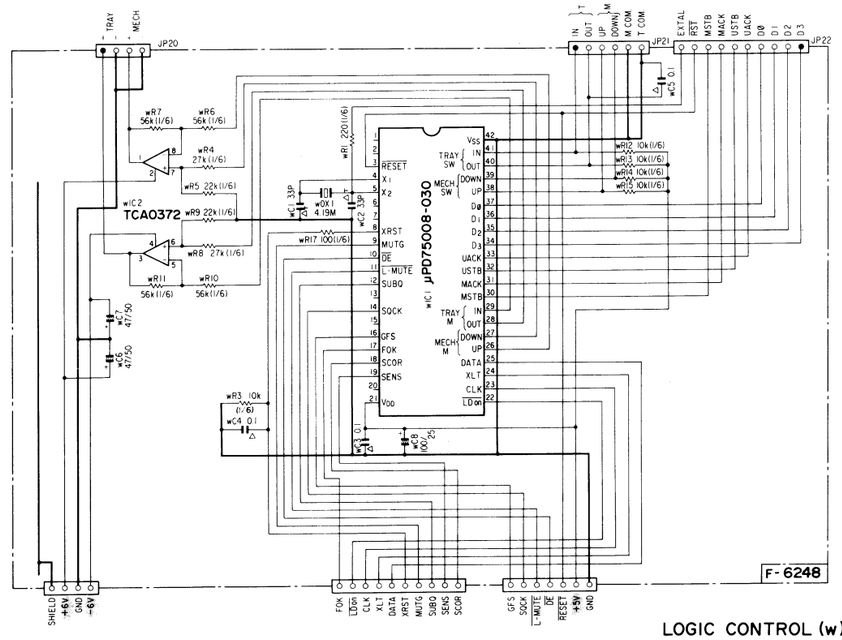
DTA124ES
DTC124ES
2SC2458

2SA1488
2SC3851
2SD1406

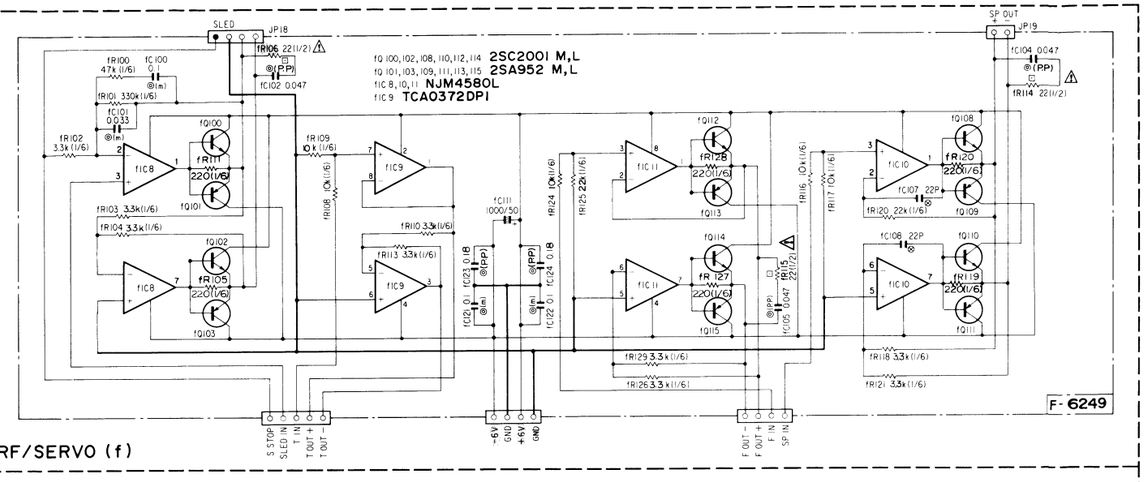




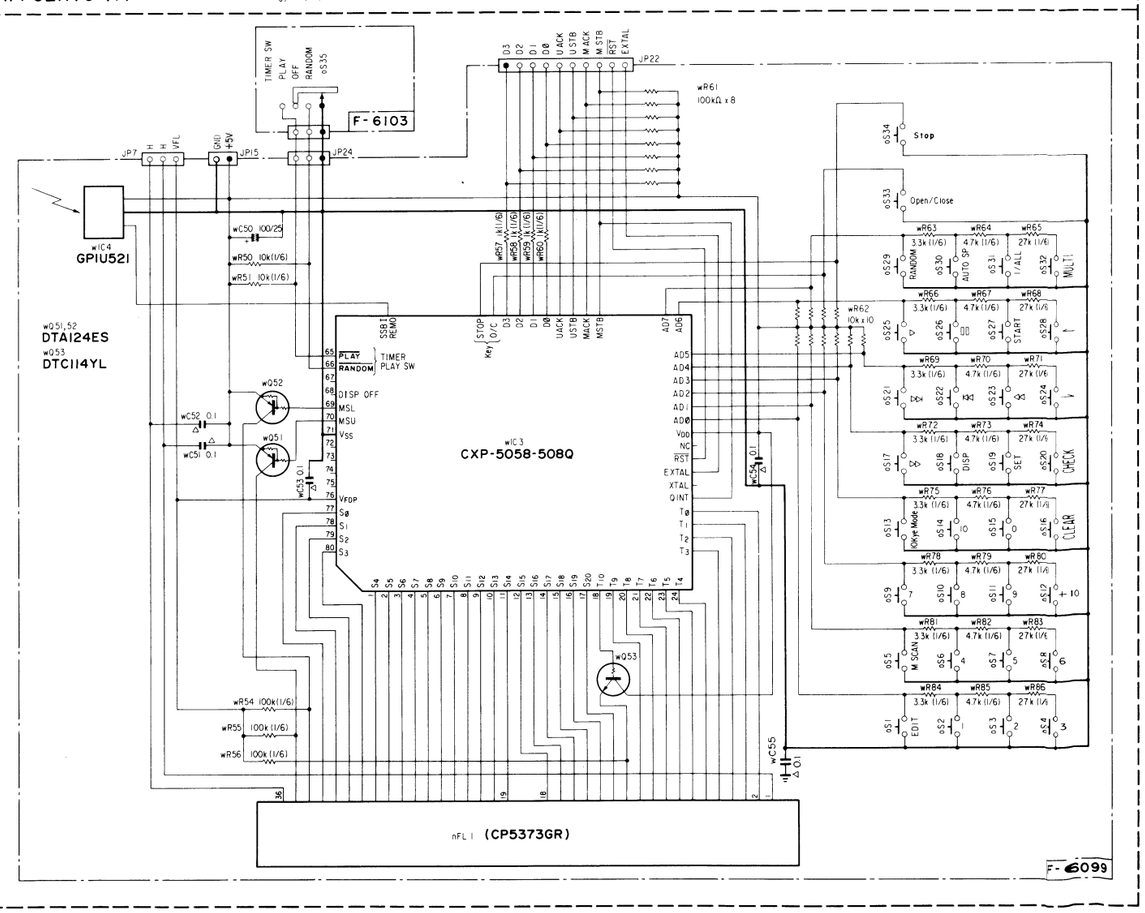
DIGITAL / ANALOG (v)



LOGIC CONTROL (w)

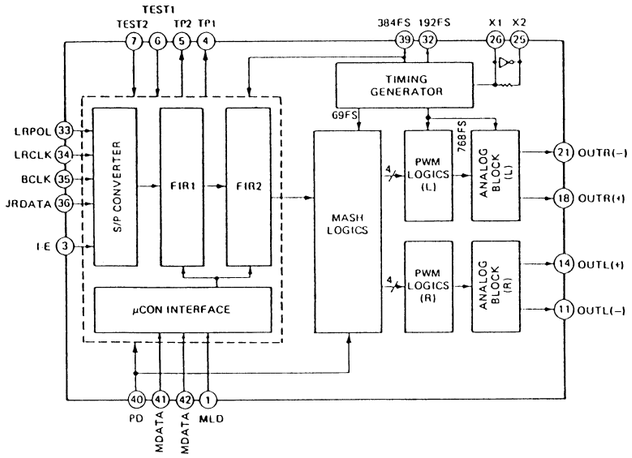


RF/SERVO (f)



SIGNAL LINE

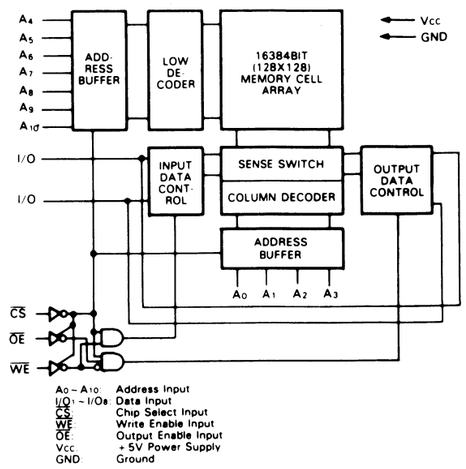
● MN6471M (D/A Converter)



<Function>

Pin No.	Pin Name	Function
1	MLD	Microcomputer command load input (load when at Ⓛ)
2	RSTB	Reset terminal (active when at Ⓛ)
3	IE	When at Ⓛ — Signal processor LSI format When at Ⓗ — I²S format
10	$AV_{DD}4$	Analog system power source terminal 4 (+5 V)
11	OUTL (−)	Left channel antiphase PWM output terminal
12	$AV_{SS}4$	Analog system ground terminal 4
13	$AV_{SS}3$	Analog system ground terminal 3
14	OUTL (+)	Left channel normal phase PWM output terminal
15	$AV_{DD}3$	Analog system power source terminal 3 (+5 V)
17	$AV_{DD}2$	Analog system power source terminal 2 (+5 V)
18	OUTR (+)	Right channel antiphase PWM output terminal
19	$AV_{SS}2$	Analog system ground terminal 2
20	$AV_{SS}1$	Analog system ground terminal 1
21	OUTR (−)	Right channel normal phase PWM output terminal
22	$AV_{DD}1$	Analog system power source terminal 1 (+5 V)
23	$DV_{DD}1$	Digital system power source terminal 1 (+5 V)
24	$DV_{SS}1$	Digital system ground terminal 1
25	X2	X'tal oscillation terminal
26	X1	X'tal oscillation terminal
28	$DV_{DD}2$	Digital system power source terminal 2 (+5 V)
29	$DV_{SS}2$	Digital system ground terminal 2
30	NSUB	Connected to $D\text{-}V_{DD}$ (silicone PCB potential stabilizer terminal)
32	192FS	192 FS (=8.4672 MHz) output terminal
33	LRPOL	Left/right channel switching terminal (Ⓗ is left channel)
34	LRCLK	LRCLK input terminal LR-POL when at Ⓗ: Ⓗ is left channel data input. LR-POL when at Ⓛ: Ⓛ is right channel data input.
35	BCLK	Serial input bit clock
36	SRDATA	Serial input data (digital) input terminal
37	$DV_{SS}3$	Digital system ground terminal 3
38	DV_{DD}	Digital system power source terminal (COM potential stabilizer terminal)
39	384FS	384 FS (16.9344 MHz) output terminal
40	PD	Power down terminal (Ⓛ is active)
41	MDATA	Microcomputer command data input terminal
42	MCLK	Microcomputer command clock input terminal

● CXK5816/LC3517AL (RAM)



A0 – A10 Address Input
I/O1 – I/O8 Data Input
CS Chip Select Input
WE Write Enable Input
OE Output Enable Input
Vcc +5V Power Supply
GND Ground

◆ Action Mode

CS	OE	WE	CHIP	OUTPUT MODE	CURRENT
H	X	X	Non Select	High Impedance	Iccs
L	H	H			Icca
L	L	H	Read	Dout	
L	X	L	Write	Din	

H: High Level
L: Low Level
X: High or Low Level

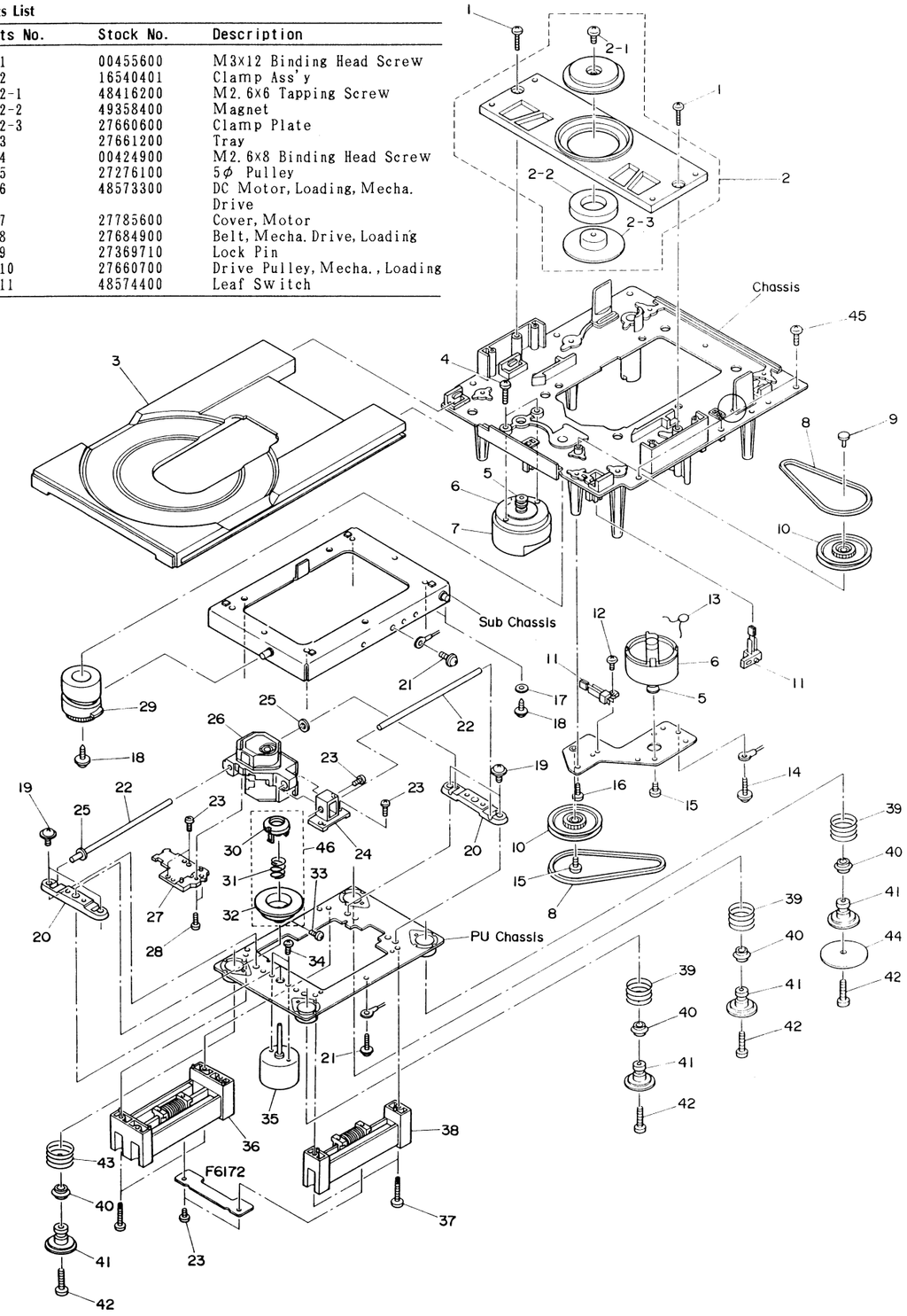
● CXP5058-508Q (Display Control)

Pin No.	Pin Name	I/O	Description
77~80 1~17	S0~S3 S4~S20	O	Terminals for outputting segment signals to FL display.
18~28	T10~T0	O	Terminals for outputting grid signals to FL display.
34	VDD	-	Positive supply voltage:+5V.
35~42	AD0~AD7	I	Terminals for inputting a key return signal from externally connected key matrix.
47	MSTB	I	Terminal to input a timing signal for receiving parallel data from the μPD75008.
48	MACK	I	Terminal to input a response signal for parallel data from the μPD75008.
49	USTB	O	Terminal to output a timing signal for parallel data from the μPD75008.
50	UACK	O	Terminal to output a response signal for receiving parallel data to the μPD75008.
51~54	D0~D3	I/O	Data bus lines from/to the μPD75008.
55	D/C	I	Disc tray OPEN/CLOSE (loading)switch input.
56	STOP	I	STOP switch input.
62	RMC	I	Remoto controller signal input.
65	PLAY	I	TIMER PLAY switch signal input.
66	RANDOM	I	RANDOM switch signal input.
69	MSL	O	Terminals for outputting segment signals to FL display.(M,S)
70	MSU	O	Terminals for outputting segment signals to FL display.(TORTAL M,S)
71	Vss	-	Ground.
76	VFDP	-	Terminal for connecting a supply voltage to filament of FL display.

8. EXPLODED VIEW OF MECHANISM

Parts List

Parts No.	Stock No.	Description
1	00455600	M3x12 Binding Head Screw
2	16540401	Clamp Ass'y
2-1	48416200	M2.6x6 Tapping Screw
2-2	49358400	Magnet
2-3	27660600	Clamp Plate
3	27661200	Tray
4	00424900	M2.6x8 Binding Head Screw
5	27276100	5φ Pulley
6	48573300	DC Motor, Loading, Mecha. Drive
7	27785600	Cover, Motor
8	27684900	Belt, Mecha. Drive, Loading
9	27369710	Lock Pin
10	27660700	Drive Pulley, Mecha., Loading
11	48574400	Leaf Switch



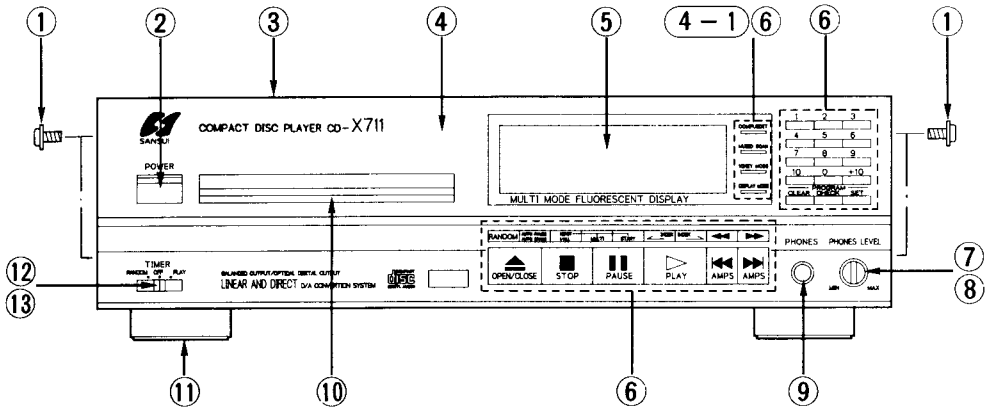
Parts List <Mechanism>

Parts No.	Stock No.	Description
12	00423900	M2x4 Binding Head Screw
13	07213200	0.01μF 25V C.C.
14	48163700	M3x10 Flange Head Screw
15	48371600	M2.6x3 Binding Head Screw
16	00455400	M3x8 Tapping Screw
17	27733100	Nylon Washer
18	00457500	M3x10 Flange Head Screw
19	49266700	M4x5 Flange Head Screw
20	27660500	Rail Holder
21	46268000	M3x8 Flange Head Screw
22	27685000	Rail
23	49418800	M2x5 Binding Head Screw
24	27659800	Coil Holder-2
25	27734200	PU Spacer
26	49253600	Pick-up Ass'y
27	27659900	Coil Holder-1

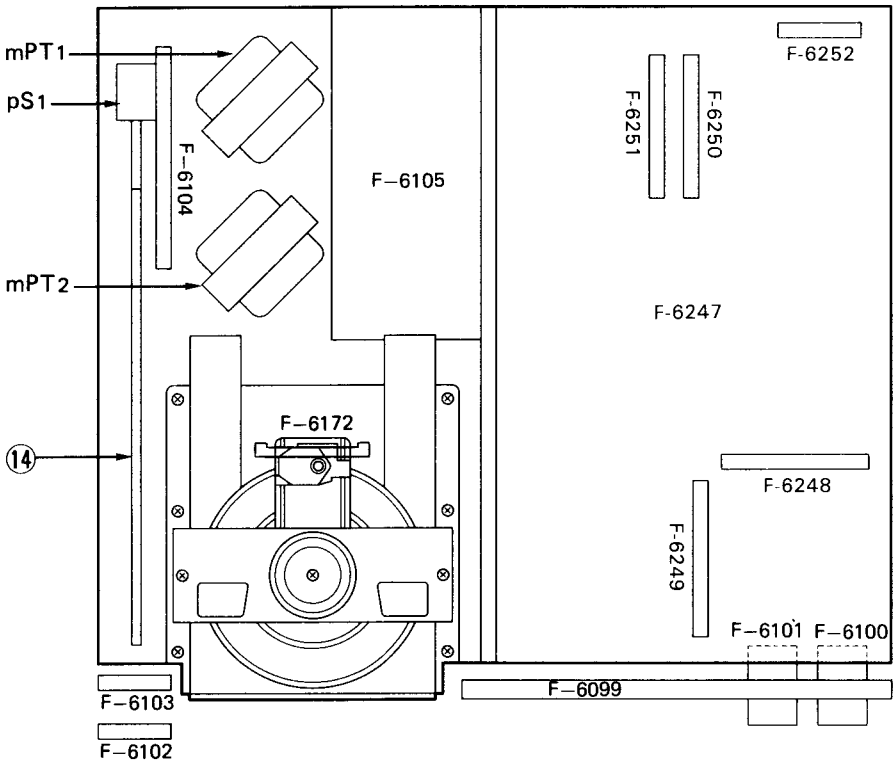
Parts No.	Stock No.	Description
28	49450100	M2x6 Tapping Screw
29	27660910	Cam Ass'y
33	18154800	M2x4 Pan Head Screw
34	46609800	M2x3 Binding Head Screw
35	48584900	DC Motor, Spindle
36	49351900	Drive Unit Ass'y
37	49378400	M3x16 Binding Head Screw
38	49351800	Detector Unit Ass'y
39	27690910	Spring, Floating-A
40	27280300	Cushion, Floating
41	27660300	Floating Collar
42	00425900	M3x16 Binding Head Screw
43	27691010	Spring, Floating-B(Green)
44	27736900	Sheet Washer
45	46267700	M3x6 Binding Head Screw
46	27810800	Turn Table Ass'y

9. OTHER PARTS (※Other parts list is mentioned on next page.)

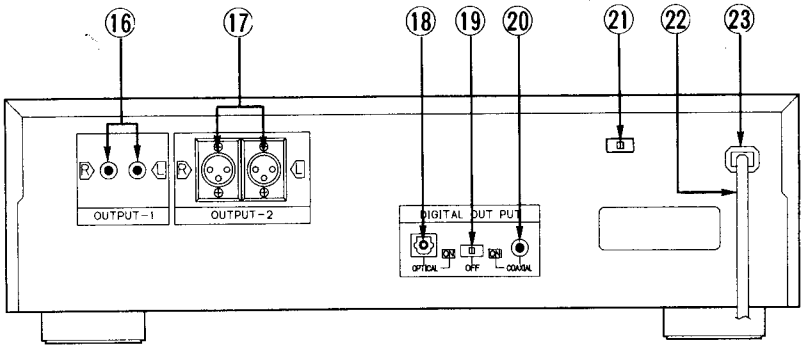
● Front View



● Top View



● Rear View



Parts List

Parts No.	Stock No.	Description
1	46669100	M4×8 Flange Head Screw
2	27693100	Knob, POWER
3	27691700	Bonnet
4	27798410	Front Panel Ass'y <XX·SS>
	27798510	Front Panel Ass'y <EU>
4-1	27693800	Knob COMPU EDIT· MUSICS SCAN·10KEY MODE· DISPLAY MODE
5	49350700	FL Display Tube, CP5373GR
6	49326300	Tact SW., COMPU EDIT· MUSICS SCAN·10KEY MODE· DISPLAY MODE·10KEY· PROGRAM·AMPS·PLAY·STOP· PAUSE·OPEN/CLOSE
7	27692900	Knob, PHONES LEVEL
8	49395600	20kΩ V.R., PHONES LEVEL
9	48831300	Jack, PHONES
10	27682100	Tray Panel
11	27723200	Leg
12	27693000	Knob, TIMER
13	49357300	Slide SW., TIMER
14	27693200	Joint Shaft Ass'y, POWER SW.
16	49374800	2P Terminal, OUTPUT-1
17	49255200	Neutral Connector, OUTPUT-2
18	49352600	Optical Module with Plug
19	48834900	Slide SW., DIGITAL OUT
20	49443600	1P Terminal, COAXIAL
⚠ 21	07204700	Slide Switch, Voltage selector <XX·SS>
⚠ 22	46321000	Power Supply Cord <XX>
⚠	48837700	Power Supply Cord <SS>
⚠	38004500	Power Supply Cord <EU>
23	48913500	Strain Relief
⚠ mPT1	15033801	Power Transformer <XX·SS>
⚠	15033805	Power Transformer <EU>
⚠ mPT2	15033901	Power Transformer <XX·SS>
⚠	15033905	Power Transformer <EU>
⚠ pS1	48846300	Push SW., POWER

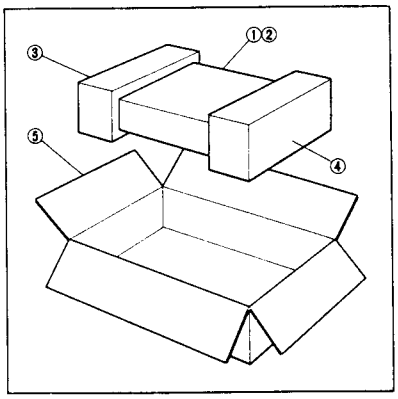
10. ACCESSORY LIST

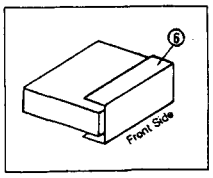
	Stock No.	Description
	07193400	Pin Plug Cord
	19057100	Operating Instructions <*E·F·S>
	19057200	Operating Instructions <*G·I·Sw>
	———	Remote Controller, RS-1110
	———	Dry Battery SUM-3K

*Note:
E·F·S: English·French and Spanish Version
G·I·Sw: German·Italian and Swedish Version

11. PACKING LIST

Parts No.	Stock No.	Description
1	47859600	Vinyl Bag
2	47428000	Sheet
3	27822400	Styrofoam Packing (Left)
4	27822300	Styrofoam Packing (Right)
5	27798800	Carton Case
6	27417500	Protector Sheet for panel.





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